HEALTHCARE SEEKING BEHAVIOUR AMONG YOUTH WITH SEXUALLY TRANSMITTED INFECTIONS IN NIGERIA

BY

ENADEGHE OROBOSA

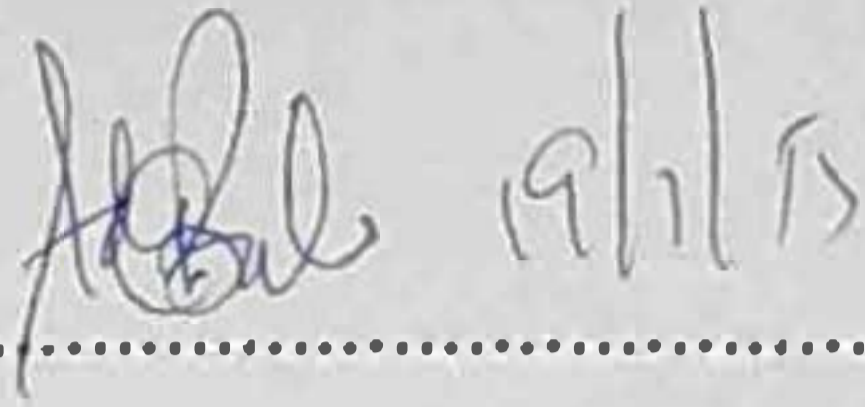### MATRIC NO: 173227

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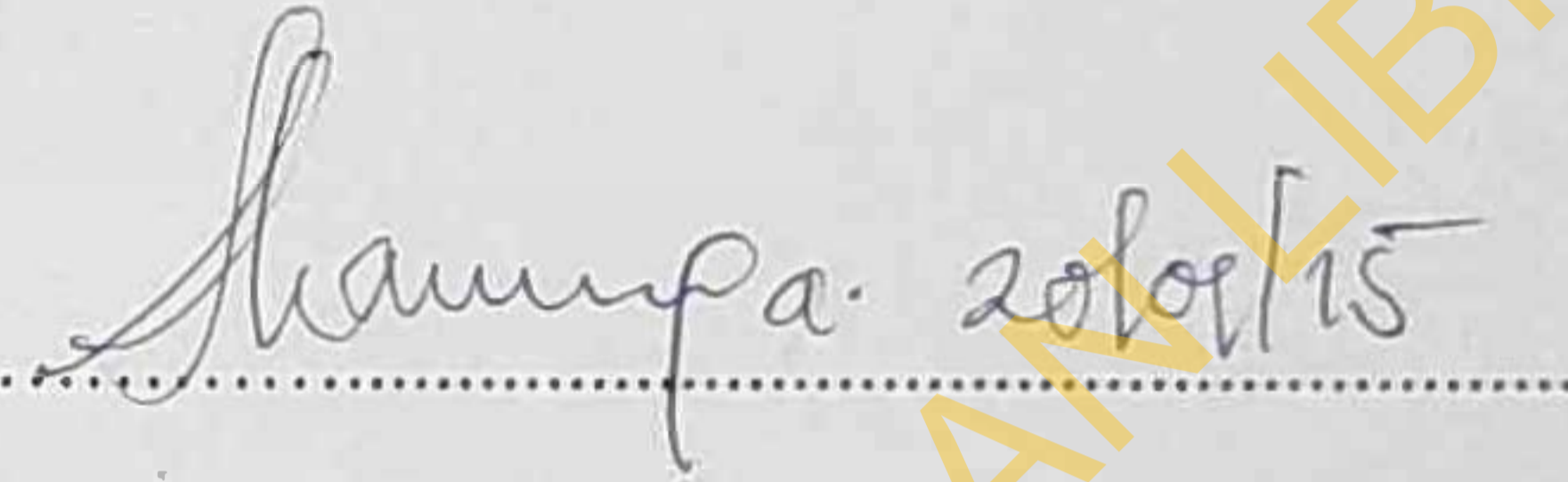
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CERTIFICATION

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DEDICATION

This work is dedicated to Almighty God

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ABSTRACT

In Nigeria and other developing countries, STIs and their sequelae are ranked among the top five reasons for adults to seek health care. Despite these, there has been a disproportionate neglect on STIs as most research focus is on HIV/AIDS. Also, more is yet to be explored on behaviour of youth towards seeking care especially on problems like STIs that are often stigmatized. This study aimed to assess the healthcare seeking behaviour and associated factors among youth with STI in Nigeria.

Data from 10,091 respondents aged 15-24 years were extracted from the 2012 National HIV/AIDS and Reproductive Health Survey (NARHS) consisting of 648 who self reported having at least one STI symptoms and 347 who had sought advice or treatment for their STIs. The NARHS was a household survey with a cross-sectional design conducted in all the 36 states of Nigeria and the Federal Capital Territory (FCT). Variables on socio-demographics, lifestyle, sexual behaviour, condom use, media exposure, STI knowledge, self reported STI and health seeking behaviour of youths aged 15-24 years were extracted from the survey data. Associations between variables were tested using chi square tests and multiple logistic regression to determine factors associated with STIs and healthcare seeking behaviour among youth with STIs. Level of significance for all tests was at 5%.

Overall mean age of the respondents was 19.1 years (SD=2.7). A larger percentage were females (55.3%). Prevalence of at least one symptom of STI was 6.4%. By gender, 8.1% females and 4.3% males were found. Overall knowledge of STI symptoms was low. For the reported STI symptoms, prevalence of genital itching was highest (4.3%), followed by genital discharge (3.3%), genital rash (1.7%) and genital sore/ulcer (1.3%). Variables which remained significantly associated with self reported STI in multiple logistic regression included being female (OR=2.65,

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95% CI=2.01-3.50); Christianity (OR= 1.43, 95% CI=1.03- 1.96); North Central zone (OR=4.38, 95% CI= 2.72-7.05); more than one sexual partnership (OR=1.76, 95% CI=1.31- 2.37); condom use at last sexual act (OR=0.69, CI=0.50-0.94); high STI knowledge (OR=0.69, 95% C.I= 0.53-0.89). More than half (53.5%) of youth who self reported STI symptoms sought STI treatment, females (54.1%) and males (52.3%). Most reported source of seeking STI treatment was government clinic/hospital (17.1%) from which greater percentage of females (18.9%) than males (13.0%) sought STI treatment. Variables which remained significantly associated with seeking STI treatment in multiple logistic regression included having secondary school education or higher (OR=2.41. 95% CI=1.05-5.51); high STI knowledge (OR=4.41, 95% CI=2.44-7.96); alcohol use (OR=2.23, 95% C.I= 1.25-4.33).

STI prevalence and health care seeking for STI symptoms was higher in females than males. While more males had sought treatment from traditional healers, females preferred government hospitals/clinics. STI control programs should be improved generally among young people in Nigeria and should be targeted differently to males and females for optimum effectiveness.

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CHAPTER ONE

INTRODUCTION

1.0 Background

The term "Youth" is used to describe individuals in the age groups 15-24 (WHO, 1986). There is high number of youth in developing countries. UNAIDS (2003) reported that more than 95% of the 40 million people infected with HIV are in developing countries. Also, one in 20 young people is believed to contract a curable STI each year, excluding HIV and other viral infections (Dehne and Riedner, 2005). Despite that young people are potentially at risk of STI, they lack knowledge and information about STI. According to a survey in Nigeria, greater than 70% of females aged 15-19 year and more than half of males of same age had no knowledge of STI (NDHS, 2003). Recently, Mmari et al., (2010) reported that only as low as 41% of those aged 15-25years had high knowledge of STI. STI on its own right can be a serious disease coupled with the fact that it is a co-factor for HIV transmission and acquisition with an increased risk by a factor of up to 10. In developing countries of the world (Nigeria inclusive), STIs and their sequelae are among the top five disease categories for which adult seek health care (WHO media centre, 2011; WHO 2013; Lawan, 2012). Some of these STI when not controlled can lead to severe complications including pregnancy complications, infant low birth weight and blindness, secondary infertility and severe pains and discomfort.

Among young people, there are several problems related to STI. These young people are sexually active and are often involved in unprotected sexual intercourse -greater risk is often reported from those young people who are in socially and economically disadvantaged position as sexual activity may occur in the context of coercion or violence. High STI prevalence in this

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group has been partly linked to their engagement in high risky sexual behaviours and practices such as having multiple sexual partners, involving in casual sex, poor knowledge and inconsistent condom use (Adenike, 2009). Also, with increased need for autonomy and privacy by young people, while feeling that nothing can happen to them, young people are often engaged in higher risk taking behaviour (Bearinger, 2008; Vanessa, 2012). Behavioural patterns acquired during this age group tend to last throughout adult life – approximately 70% of premature deaths among adults are due to behaviours which began during adolescence (Dehne and Reidner 2005). According to a study conducted in the rural southeast of Nigeria, Mmari (2010) reported that the prevalence of STIs among adolescent females was as high as 17%. When only sexually active female were considered, 17–19-year-olds had the highest prevalence of chlamydia (11%) and candidiasis (26%), and were also the age-group most likely to have had any STI (44%); women younger than 17 had the highest prevalence of trichomoniasis (11%), and nearly 20% also had symptomatic candidiasis. Similarly, in Abia, Port Harcourt and Cross Rivers state. STI prevalence ranged from 9.3% to as high as 19.3% (Patrick 2007; Mmari, 2010). However, Kevin (2001) identifies that relatively little is known about the sexual health treatment seeking behaviours of young people in West Africa and even fewer within Nigeria. This becomes a highly complex and poorly understood subject, particularly in developing countries, where competing systems of traditional, informal and Western medicine co-exist (Mmari et al., 2010). Though the source of seeking health care varies among young people, Chukwunenye (2010) reported that 70% of adolescents in Delta State had their STI treatment in health centre. In another study conducted among youth aged 15-24 years in Nigeria, Mmari et al., (2010) reported that greater proportion of males than females had sought treatment for their STIs (64% vs 48%).

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However, higher percentage of female youth had sought STI care from formal sources mostly government hospitals, while males preferred informal sources of care mainly traditional healers. Despite report on high level of unprotected sexual activities among Nigerian youth below age 25 years (NDHS 2014), available studies on this issue is limited (Fatusi and Wang 2009). From the few that exists, one study reported an association between early sexual debut and STI among males 15-24 years only but not among females (Fatusi and Wang 2009). Another study reported only gender difference in seeking STI treatment among youth of same age group (Mmari et al., 2010). This study investigated sexually transmitted infections and health seeking behavior using a nationally representative sample of youth (males and females) aged 15-24 years in Nigerian. Being a nationally representative sample of both males and females; result from this study has potential for wider application than small-scale studies. Prior to this, no study had looked at STI and health seeking behaviour among young people using a nationally representative sample of both males and females in this age group. In addition, availability of HIV status was captured in the data used in the survey. Findings from this study is aimed to help policy makers in making policies on STI interventions; guide future researches on STIs and in identifying and understanding the underlying factors for health seeking behaviour for youth with STI, thus, its importance in effective STI control programmes.

1.2 Statement of Problem

Sexually Transmitted Infections (STIs) have become a major health problem globally, and the need for their prevention has been apriority since the emergence of HIV/AIDS (Wasserheit, 2001). In Nigeria and other parts of the world, though evidence exists that STI are common problem, there has been a disproportionate neglect on STI as most research focus is on HIV/AIDS despite that every year -worldwide, about 340 million people are infected by four

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most important STIs (syphilis, gonorrhoea, trichomoniasis and Chlamydia) excluding HIV; 70%

among 15-24 years (WHO, 2006). About 69 million of these infections occur in sub- Saharan

Africa. According to Mmari et al., (2010), STI can increase the risk of HIV acquisition by a

factor of up 10. Though STI is consequent to unprotected sexual contacts, sexual contacts among

unmarried young people are often unprotected, thus they are more at risk of contracting STI.

Also, Wellings, (2006) reported that condom use is increasing everywhere except in developing

countries. In rural southeastern Nigeria, female adolescent STI prevalence was as high as 17%.

While sexually active women aged 17-19 years were most likely to have any STI (44%). This

age group also had the highest prevalence of Chlamydia (11%) and candidiasis (26%) (Brabin,

1999). Overall adolescence STI prevalence of (14%) was reported in (Mmari et al., 2010).

Furthermore what people do when they have a symptom or a suspicion of STIs has major

implications for transmissions and consequently for disease control. Delays in seeking and

obtaining diagnosis and treatment can allow for continued transmission and a greater probability

of developing of adverse sequelae (WHO, 2006). The Demographic and Health surveys of 20

countries in Sub-Saharan Africa showed self-reported STI prevalence among adolescents to be

11% for females and 16% for males (Bankole, 2004). More so, greater than 70% of females aged

15-19 year and more than half of males of same age had no knowledge of STI (NDHS, 2003).

The consequence is that coupled with the fact young people are sexually active, most STIs are

often symptomless, infected people may continue to have sex thereby increasing the transmission

cycle. Also, STIs information available to young people are inadequate and inaccurate especially

from Africa. Among are beliefs that one could contract gonorrhoea from urinating on the same

spot where infected person had urinated (Population Council, 1998). Concerning seriousness of

STI, adolescent are often far more concerned about their sexual health and preventing unwanted

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pregnancy than about STI symptoms (Brabin, 1999), similar findings in Kenya, Sweden and Argentina, (Ahlberg et al., 2001; Mercer et al., 2001; Dahne and Reidner 2005).

1.3 Justification

Evidence on adolescents' health-seeking behavior is scant- much is yet to be explored of the sequence of steps that young people take in trying to get help for a health problem, especially problems like STIs that are often stigmatized. For effective STI control, there is need for a better understanding of the factors influencing treatment seeking behaviour. One of the key objectives of this study is identifying such factors. This would be helpful in narrowing down specific STI interventions that would be more effective than broad ones. Also, exploring gender difference in this study has the possibility of identifying specific gender related factors thus helping in planning gender based interventions and as well identify priority areas in STI control programmes. More so, apart from providing additional evidences and substantiating findings from previous researches, findings from this study could be helpful in influencing future researches as several key factors relating to STI and health seeking behaviour are explored, this could serve as pointers in identifying key factors for which future researches could explore. Furthermore, due to the national representativeness of the NARHS data use in this study, policies on STI control made based on findings from this study has potentials for wider applications than smale-scale studies.

1.4 Broad Objective

- To assess healthcare seeking behaviour concerning STIs among youths in Nigeria.

1.5 Specific Objectives

1. To determine the pattern of STI symptoms in the past year among youth in Nigeria.

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2. To <u>determine</u> the patterns of health-seeking behaviours among youth with STI in Nigerian.

3. To identify gender differences in health seeking behaviour among youth with sexually transmitted infections in Nigeria.

4. To identify the factors associated with health care- seeking behaviour among youth with sexually transmitted infection in Nigeria.

1.6 Hypotheses

1 There is gender difference among youth reporting STI symptom in last 12 months.

2 Association exists between seeking STI treatment and selected independent variables

3 There is gender difference pattern of seeking health care seeking behaviour among youth with sexually transmitted infection in Nigeria.

4 There is association between seeking STI treatment from government hospital and selected independent variables.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview on STIs

More than 30 bacterial, viral, and parasitic pathogens are transmissible sexually and constitute a group of infections referred to as sexually transmitted infections (STIs), (WHO, 2013). According to WHO global fact sheet 2013, eight of them are known to be transmitted through sexual contact have been linked to the greatest incidence of illness. Of these 8 infections, 4 are currently curable: syphilis, gonorrhoea, chlamydia and trichomoniasis. The other four are viral infections and are incurable, but can be mitigated or modulated through treatment: hepatitis B, herpes, HIV, and HPV. Although some of the pathogens can be acquired through routes other than sexual transmission. Epidemiologically, sexual contact is more important for their transmission from one person to another. Several studies showed that STIs are not evenly distributed, some are found more commonly among people age 10- 24 than other age groups and in most studies, girls seem more frequently affected than boys. Dahne and Reidner (2005) reported that STIs may be more prevalent among adolescents in Africa and the Caribbean than in other regions, due to higher numbers being regularly sexually active, but direct evidence of regional differences is scarce.

STIs are also a serious health problem in themselves. Sub-Saharan Africa is the global epicenter of the AIDS epidemic with transmission of HIV predominantly through heterosexual intercourse and the majority of new infections in young people, aged 15-24 years (UNAIDS, 2008). Thus there is growing recognition of the public health importance of STIs due to the extent of morbidity and mortality they cause and the well established evidence that STIs facilitate the

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transmission of infection with HIV. STIs and HIV/AIDS are spread through certain high-risk behaviours and both diseases share the same epidemiological risk factors. Because they are spread through similar behaviours, people exposed to other STIs are an easily identifiable group at high risk of HIV infection. The control of STIs is thus an important step in slowing the spread of HIV infection.

More than 1 million people acquire a sexually transmitted infection every day. Each year, an estimated 500 million people become ill by one of four sexually transmitted infections: chlamydia, gonorrhoea, syphilis and trichomoniasis. While greater than 530 million people are living with HSV2, more than 290 million women have an HPV infection, one of the most common STIs (WHO fact sheet Assessed November 2013). Of those who acquire STI, Sixty-nine million of the infections occur in sub-Saharan Africa. The large proportion of infections is believed to occur in people younger than 25, with the highest rates usually observed in the 20-24 year age group followed by the 15-19 year age group (WHO, 1993).

In 2008, WHO global estimate of the total number of new cases in adults of the four STIs was 498.9 million: 105.7 million cases of *Chlamydia trachomatis*, 106.1 million cases of *Neisseria gonorrhoeae*, 10.6 million cases of syphilis, and 276.4 million cases of *Trichomonas vaginalis*. Males accounted for 266.1 million or 53% of the new cases. At any point in 2008, it was estimated that the number of adults infected with each infection was: 100.4 million with *C. trachomatis*, 36.4 million with *N. gonorrhoeae*, 36.4 million with syphilis, 187.0 million with *T. vaginalis*. However, global estimates of STI burden have depended on a small number of prevalence studies conducted in varied settings, which have a number of limitations (WHO, 2013). Thus, improvement in country-level data would also facilitate increased estimation of the global burden of STIs.

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Table: 2.1 Incidence of Four Selected STIs in 2008 in WHO Regions (in Million).

Regions	C. trachomatis	N. gonorrhoeae	Syphilis	T. vaginalis	Total (Million)
WHO Western Pacific Region[a]	40.0	42.0	0.5	45.7	128.2
WHO Region of the Americas[b]	26.4	11.0	2.8	85.4	125.7
WHO African Region[c]	8.3	21.1	3.4	59.7	92.6
WHO South-East Asia[d]	7.2	25.4	3.0	42.9	78.5
WHO European Region[e]	20.6	3.4	0.2	22.6	46.8
WHO Eastern Mediterranean Region[f]	3.2	3.1	0.6	20.2	26.4
Total	105.7	106	10.5	276.5	

Source: WHO (2012).

a. Prevalence

At any point in time 2008 it was estimated that 37.8 million adults were infected with *C. trachomatis*, 13.3 million with *N. gonorrhoeae*, 1.2 million with syphilis and 30.1 million with *T. vaginalis*.

b. Prevalence

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In 2008, it was estimated that at any point in time, 25.2 million adults were infected with *C. trachomatis*, 3.6 million with *N. gonorrhoeae*, 6.7 million with syphilis and 57.8 million with *T. vaginalis*.

c.   Prevalence

The point prevalence for 2008 was estimated to be 9.1 million adults infected with *C. trachomatis*, 8.2 million with*N. gonorrhoeae*, 14.3 million with syphilis and 42.8 million with *T. vaginalis*.

d.   Prevalence

At any point in time 2008 it was estimated that 8.0 million adults were infected with *C. trachomatis*, 9.3 million with *N. gonorrhoeae*, 12.3 million with syphilis and 28.7 million with *T. vaginalis*

e.   Prevalence

The point prevalence for 2008 was estimated to be 17.3 million adults infected with *C. trachomatis*, 1.0 million with *N. gonorrhoeae*, 0.3 million with syphilis and 14.3 million with *T. vaginalis*.

f.   Prevalence

In 2008, it was estimated that at any point in time, 3.0 million adults were infected with *C. trachomatis*, 1.0 million with *N. gonorrhoeae*, 1.6 million with syphilis and 13.2 million with *T. vaginalis*.

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Table 2.2 Global Incidence Estimates of Four Selected STIs for 2005 and 2008 (Millions).

	2005	2008	% change
Chlamydia trachomatis	101.5	105.7	4.1
Neisseria gonorrhoeae	87.7	106.1	21.0
Syphilis	10.6	10.6	0
Trichomonas vaginalis	248.5	276.4	11.2
Total	448.3	498.9	11.3

Source: WHO (2012).

2.2 Young People and STI

Sexually transmitted diseases (STDs) are among the first ten causes of unpleasant diseases in young adult males in developing countries and the second major cause of unpleasant diseases in young adult women worldwide. Adolescents and young adults (15–24 years old) are responsible for only 25% of the sexually active population, yet they represent almost 50% of all newly acquired STDs (Carlos 2008). Sexually Transmitted Infections (STIs) are presently the most common infectious diseases which are responsible for several reproductive health problems affecting young people around the world (Aliyu et al., 2013). However, the sexual and reproductive health needs of young people are often unmet in developing countries (Lewis et al., 2007) which results in the prevalence of STIs infections. People in this age category have experienced over 100 million new cases of STIs annually. This shows that the age between 15–24 years is a very sensitive and important aspect of young people's life. Audinarayana (2010) explained that this period remains an evolutionary period to early adulthood, a critical period in a man's life in terms of physical growth and development, social and emotional maturity, sexual maturity and the onset of sexual activity experimentation. For the young people who are marginalized both socially and economically, the risk is contracting STI is often greater as sexual

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activity may take place within a context of coercion or violence or in the course of selling sex for a living. In addition, for biological reasons, sexually active girls may be at greater risk of contracting STIs than boys.

2.3 Selected Sexually Transmitted Infections

2.3.1 Chlamydia Infections and Gonorrhoea

World Health Organization (WHO) in 2008 estimates 106 million new cases among adults globally. This places gonorrhoea as the most prevalent bacterial sexually transmitted infection (STI) together with *Chlamydia trachomatis* infection (also 106 million new cases). According to WHO, (2012), adolescents are believed to represent at least one third of cases of *Chlamydia trachomatis* infection worldwide. Also, adolescent girls accounted for the highest level of chlamydial infection with about 10% among sexually-active girls in rural areas of Uganda and Nigeria. However, Dahne and Reidner in 2005 reported that the prevalence data for chlamydia and gonorrhea for adolescent boys is scarce, partially because so many studies have been limited to family planning clients. Also, same study reported that studies from Namibia, Tanzania and the USA showed either no STIs at all in adolescent boys or a prevalence of less than 2%. In contrast, higher rates have also occasionally been reported. A rural Ugandan study revealed that 26% of a small sample of boys had chlamydia (Wagner et al., 1994). Interestingly, following the development of a polymerase chain reaction (PCR) gene amplification diagnostic technique that became available in the mid-1990s, when used in one study in the USA, it indicated that adolescent boys may not actually be less affected by chlamydia than girls. It found that infection rates were similar in the girls and the boys (around 15%), and that the higher rates of chlamydia-positive cultures in the girls were largely a result of the lower sensitivity of the culture method compared with PCR.

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2.3.2 Other Sexually Transmitted Infections

Rather than to decrease, syphilis seems to increase with age and is therefore less a disease of adolescence than chlamydia and gonorrhoea (Hughes and Berkley, 1999). Also, the worst effects of syphilis are not manifested in adolescence, rather in infants with congenital syphilis and in older adults from tertiary syphilis. Although very few adolescent-specific studies have been conducted, it would appear that other STIs – including *Trichomonas vaginalis*, human papillomavirus (HPV) and herpes genitalis – are also prevalent in adolescents. Trichomonas is the most common curable STI worldwide, and adolescents account for a disproportionately high number of cases (Cates and McPheeters, 1997). In a Nigerian study (Brabin et al., 1995) approximately 11% of adolescents under age 17 and up to 25% of those aged 15-19 had trichomonas and, in Dares Salaam, 34% of 15-19 year old pregnant women had trichomonas (Mwakagile et al., 1996). As with other STIs, trichomonas places young women at increased susceptibility for HIV infection. Trichomoniasis is the most prevalent non-viral sexually transmitted infection (STI) worldwide. The etiological agent for trichomoniasis is *Trichomonas vaginalis*. *T. vaginalis* is a motile, ovoid, pear-shaped, flagellated protozoan (10–20 μm long). The World Health Organization in 2008 estimated 276.4 million new cases of *T. vaginalis* to have occurred globally among adults aged 15–49 years. Thus there is a substantially more STI cases than those caused by *Chlamydia trachomatis* and *Neisseria gonorrhoeae* combined (WHO, 2012).

There are two important aspects in which infection with *T. vaginalis* differs from other infections that cause a genital discharge. First, for chlamydial, and to a lesser extent gonococcal infections, prevalence rates peak in women ages 15–25 years, whereas *T. vaginalis* infections appear to peak substantially later in life (between 40–50 years of age) (Van Der Pol B, 2012). This difference in

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age distribution is relevant to informing STI control programmes and appropriate targeting of screening efforts. WHO in 2012 reported that the age-specific distribution of the infection in men has not been studied adequately. The second difference as stated by (Van Der Pol B, 2012) that despite reliance on sexual transmission for movement from host to host, the gender distribution of laboratory-diagnosed *T. vaginalis* infections is highly skewed with a female-to-male ratio as high as 4:1. This is likely due to a more transient infection occurring in men, brief window of opportunity for detection of the organism, and lack of screening and diagnosis in men. *T. vaginalis* adheres to the mucous membranes associated with squamous epithelium and does not invade the mucosa. Because of the environment of the male urethra, this organism is less likely to be maintained in that location than in the vaginal milieu (WHO, 2012).

2.4 Overview of STI in Nigeria

Nigeria, the most populous country in Sub-Saharan Africa, has a high prevalence of STIs among young people (Adedimeji, Omololu, & Odutolu, 2007; Oladepo & Fayemi, 2011; NARHS Plus ,2007) and is regarded as the second most populated country infected with HIV/AIDS in the world (NDHS, 2013). Though there are evidences that STI is a common problem in Nigeria, research on STI among adolescents is limited. According to Mmari et al., (2010), a study conducted in the rural southeast of Nigeria, the prevalence of STIs among adolescent females was as high as 17%. When only sexually active female were considered, 17–19-year-olds had the highest prevalence of chlamydia (11%) and candidiasis (26%), and were also the age-group most likely to have had any STI (44%); women younger than 17 had the highest prevalence of trichomoniasis (11%), and nearly 20% also had symptomatic candidiasis. Syphilis was the only infection for which the incidence clearly increased with age. Similarly, Patrick (2007) reported that a study in Abia showed that 19.3% of boys and 9.5% of girls claimed they were infected

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with Gonorrhoea and Syphilis while In Cross Rivers State 15.1% of the adolescents have had genital tract infection. Another study conducted in urban Port-Harcourt reported an overall adolescent STI prevalence rate of 14%, thus confirmed the high rate of STIs among adolescents (Mmari et al., 2010). Also, statistics from the Nigerian National AIDS/STD Control Program reveals that one-third of young people between the ages of 15 and 25 years are infected with new cases of HIV/AIDS infections. The high prevalence of the infections resulted in making STIs to be ranked among the top five diseases which young people in Nigeria seek medical attention for and the major sexually transmitted infections such as gonorrhoea and syphilis are ranked among the ten most reported noticeable diseases in Nigeria (FMOH, 2002). What people do when they have a symptom or a suspicion of STIs has major implications for transmissions and consequently for disease control.

2.5 STI Information and knowledge

Young people in Nigeria had little knowledge of other STIs apart from HIV/AIDS (NDHS, 2003). They are exposed to knowledge and treatment of STIs from different sources which might be full of misconceptions. This ambiguity of information can result in negative financial, social, deteriorating health or personal consequences that can result in termination of life. Therefore, having accurate knowledge about STIs and how to access appropriate treatment is important to counter myths, reduce associated fear and anxiety, change risky sexual behaviour, and create a supplementary humane and sympathetic response to individuals with the disease. Several studies have shown that young people did not mention a link between AIDS and other STIs which shows that there is scanty knowledge on STIs (Bankole, 2004; UNICEF, 2002; Dehne & Riedner 2005). Invariably, adequate knowledge of the symptoms of STIs is one of the most important rudiments for seeking treatment timely.

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2.6 Sexual Practices of young people aged 15-24years.

STI is a consequence of unprotected sexual intercourse and young people are sexually active and are often involved in high risky sexual practices as their sexual contact among them are unprotected. The use of contraception by youth is generally poor and they are less likely to use condoms than adults because of lack of access and, for girls in particular, the inability to insist on their use. The correct and consistent use of condoms is highly effective in preventing sexual transmission of STDs and HIV among males. However, condom use is increasing everywhere except in developing countries (Wellings, 2006). Among the sexual practices and believe is that condom-free intercourse has been viewed as a sign of trust (CDC, 2006). Despite these, the sexual behavior determinants of STI and HIV transmission are often difficult to study and identify for cultural and religious reasons. Traditionally, sex is a very private subject in Nigeria as well as other African nations. Religious and cultural practices have been a major contribution to this. Discussions about sex with young people, particularly girls, are not viewed culturally acceptable. Until recently, young people received little or no sexual health education, which has proved a major barrier to behavioral interventions aimed at reducing rates of HIV and other STIs. Rising transmission rates have been facilitated by inaccurate sexual health information thereby fostering myths and misconception and as well helped fuel the stigmatization and discrimination of PLWHAs. An important behavioral determinant of STI and HIV sexual transmission is the level of multiple partnering within a community.

2.7 Health Seeking Behaviour concerning STI

Kevin (2001) identifies that relatively little is known about the sexual health treatment seeking behaviours of young people in West Africa and even fewer within Nigeria. This becomes a highly complex and poorly understood subject, particularly in developing countries, where

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competing systems of traditional, informal and Western medicine co-exist (Mmari et al., 2010). According to Dehne and Riedner, (2005), evidence from some developing countries suggests that the majority of adolescents who have tested positive for STIs or reported STI symptoms first try to treat their infections themselves or seek treatment from nonprofessional providers (e.g., traditional healers, patent medicine sellers), and only turn to public health clinics or formal health care providers as a last resort. More than 50% of young people aged 15-25 years recognized hospital as a place for STI treatment (Odion Ataman, 2010; Adebola, 2005). Though the source of seeking health care varies among young people, also, Chukwunenye (2010) reported that 70% of adolescents in Delta State had their STI treatment in health centre. However, about 66% of adolescent in Owerri sought care from patent chemist. A study by Patrick 2007 reported that evidence from a FGD among adolescents in Edo state revealed that majority seek care from traditional healers, patent medicine store and private medical clinics. It is doubtful whether the majority of adolescents with STI who sought treatment outside a health facility were appropriately treated. Brabin in 1995 found that adolescents waited longer or spent more time than adults appraising their symptoms before seeking help for an STI, probably because of embarrassment and guilt. Furthermore, according to Dehne and Riedner, (2005), STIs are often symptomatic in young men with symptoms including purulent discharge and burning urination. Thus may help to explain why more boys than girls may seek STI-treatment, thereby reducing the prevalence of infection though not necessarily the incidence of new infections. According to same study, one retrospective Ugandan study showed that more than 21% of adolescent boys (and almost 8% of girls) admitted having ever contracted an STI.

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2.7.1 Reasons for Health Care Seeking Behaviour

Several reasons exist why it may pose a great difficulty for adolescents to seek treatment for STIs, particularly in formal health care settings. Firstly, data from the 2003 Nigerian Demographic and Health Survey stated that more than 70% and 54% of 15–19-year-old females and males respectively had no knowledge of any STIs. In other African countries, other reasons may account for the health seeking behaviours; Mmari et al., (2010) reported that a study in Zambia found that male youth believed that females are the main carriers of STIs, and that it is a normal part of growing up for a young man to acquire an STI. Apart from these knowledge and information barriers, Mmari et al., (2010) stated other barriers to seeking care at public health facilities, to include that adolescents often feel unwelcome, perceive providers as being rude, or are refused services, cost, the fear that services are not going to be confidential and the fear of meeting their parents or other adults they know at the health care facility. Among the various STIs, gonorrhea and syphilis were the major types of STIs contracted (Adenike, 2009), adolescents and young people are mostly aware of gonorrhea than other STIs,- about 71% (apart from HIV where the awareness was 87.1%) and 84% among youth in Edo and urban slum dwellers respectively while least awareness was reported for Chlamydia (12.6%), (adebola, 2005). The commonest STI symptoms reported are for female are vaginal discharge (Adenike, 2009; Kabiru, 2010). A study among young university people in Western Nigeria reported that while herbal drugs were preference for the male informants, the female informants preferred orthodox self-medication. Such behaviour towards seeking treatment is informed by several factors which include their educational status, knowledge of the STI, attitude of health care personnel (Kehinde, 2014). Young women who are less frequently (and less clearly) symptomatic than young men are even less likely to seek STI care. The motivation to seek care is

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also based on the perception of the likely consequences of the infection. In other words, if the individual realises that the condition has serious implications for their health, then urgent steps are taken to seek care, but if they are ignorant of the likely consequences, then health care may be delayed, haphazard, ineffective and incomplete.

In Zimbabwe, for instance, young people literally stated that they did not know what to do when they realized they had an STI (or when they got pregnant). Much of this hesitation was due to fear of disapproval of their sexual behaviour and unsympathetic attitudes on the part of service providers, rather than to the inaccessibility of services, since adult reproductive health services, including STI diagnosis and treatment, were available in Bulawayo (ZNFPC, 1996). However, Adebola (2005) reported that several factors and more importantly their economic circumstances generate a treatment seeking behavior for young people that starts with a personal effort to obtain treatment and which may then lead to consulting more qualified sources of treatment where these initial efforts fail to improve the situation. For instance, a young man infected with an STI may commence treatment by first doing a self diagnosis/medication based on the information they have about symptoms and/or the drugs that might help cure the ailment. When this fails, they may seek help from friends who had similar experiences or people perceived as knowledgeable about the condition. These may include itinerant drug sellers, quacks or traditional healers. Further action depends on the outcome of this and may include contact with physicians in the formal health care system.

Many adolescents, especially girls, may not seek STI treatment until severe complications occur. According to a rural survey in Nigeria, only 2.8% of girls with symptoms had sought treatment of any kind. Among urban girls with STI symptoms, the proportion was higher but only 1.9% of the younger girls had sought treatment compared to 9.5% of the older girls (Brabin, 1995). It is

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revealed that young people prefer STIs treatments from informal sources compared with orthodox medical practitioners because such providers offer confidential treatment, low cost and fast service whereas most adolescents (and adults) who do ultimately seek STI care either self-medicate with drugs bought over the counter at pharmacies or seek treatment from private doctors or traditional healers (Dahne and Reidner 2005).

In other African countries health seeking behaviour is not quite different. Dehne and Riedner (2005) reported that in a study in Kenya and Nicaragua, the cost of health care treatment and the perception of the quality of care were among the factors considered by young people seeking care who knew where they could get STI treatment, family-planning methods and pregnancy terminations. In Ghana, self-medication with drugs purchased over the counter accounted for 80-90% of all STI treatment episodes (Health Research Unit, 1996), while in South Africa, traditional practitioners were an early source of care for up to 80% of patients who ultimately went to the formal sector The disadvantages are associated with self-medication and treatment with drugs bought from vendors and unlicensed practitioners which include sale of drugs after their expiry dates, use of ineffective drugs (which may temporarily mask symptoms), lack of referral, lack of partner notification and absence of prevention education and counseling. Thus, understanding human behaviour is prerequisite to change behaviour and improve health practices.

2.8 STI Complications and Sequelae

Sexually transmitted infections (STIs) are a major global cause of acute illness, infertility, long-term disability and death with serious medical and psychological consequences of millions of men, women and infants. It is, perhaps, for these reasons that increasing numbers of Nigerian adolescents are being infected with HIV. The UNAIDS (2004) report that young people, and

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increasingly girls, account for most cases of new HIV/AIDS infections in Nigeria and given the prevalence rate of HIV infection, Nigeria is already among the countries with the highest absolute numbers of infected people in the world (Adebola, 2005). STIs also pose a problem in pregnant adolescents. In Central African Republic, a study done in Bangui, found at least one infection in 34% of antenatal women aged 14-22, including 3.1% gonorrhoea, 6.2% chlamydia, 9.9% trichomonas, 6.7% syphilis, 29.1% bacterial vaginosis and 46.6% candida; 12.2% were also HIV-positive (Blankhart et al., 1999). With two thirds of all disability-adjusted life years (DALYs) lost due to STIs by adolescents, chlamydia infections in girls account for the largest proportion by far, followed by gonorrhea with more than a quarter of all DALYs (Murray and Michaud, 1997).

STIs and HIV/AIDS are spread through certain high-risk behaviours, the predominant mode of transmission of HIV and other STIs is sexual and both diseases share the same epidemiological risk factors. STIs greatly facilitate HIV transmission and acquisition between sexual partners, thus treating and preventing them is critical in breaking the HIV/AIDS chain of infection. Several studies (UNICEF, 2002 and Ramatu, 2013) reported that a Tanzanian study showed STI incidence was 40 per cent lower after two years in communities where symptomatic STIs were better managed than in communities lacking good STI care. Similarly, a South African study showed that men infected with HSV-2 (herpes simplex virus – type 2) were seven times more likely to be also HIV positive than sexually active men who did not have HSV-2 (UNICEF, 2002). Trends in STI incidence and prevalence can be useful early indicators of changes in sexual behaviour and are easier to monitor than trends in HIV seroprevalence or incidence.

Apart from the direct physical, psychological and social consequence of STI on the quality life, STI has been reported to have profound impact on sexual and reproductive health. In sub-Saharan Africa, up to 85% of infertility among women seeking infertility care may be as a result of untreated genital infection. WHO (2013) reported that syphilis in pregnancy leads to more than 300,000 fetal and neonatal deaths, and leaves 215 000 infants at increased risk of dying from prematurity, low birth weight or congenital disease each year. In same report, it is estimated that yearly, HPV infection causes more than 500,000 cases of cervical cancer and 275 000 cervical cancer deaths. On a summary, the consequences of STIs include female and male infertility, spontaneous abortions, ectopic pregnancies, stillbirths, chronic lower abdominal pain, cervical cancer and death. The table below shows details (table 2.3)

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Table 2.3 Clinical Manifestations of STIs

Pathogen	Clinical manifestations and other associated diseases
Bacterial infections	
Neisseria gonorrhoeae	GONORRHOEA **Men:** urethral discharge (urethritis), epididymitis, orchitis, infertility **Women:** cervicitis, endometritis, salpingitis, pelvic inflammatory disease, infertility, preterm rupture of membranes, perihepatitis; commonly asymptomatic
Chlamydia trachomatis	CHLAMYDIAL INFECTION **Men:** urethral discharge (urethritis), epididymitis, orchitis, infertility **Women:** cervicitis, endometritis, salpingitis, pelvic inflammatory disease, infertility, preterm rupture of membranes, perihepatitis; commonly asymptomatic **Both sexes:** proctitis, pharyngitis, Reiter's syndrome **Neonates:** conjunctivitis, pneumonia
Chlamydia trachomatis (serovars L1–L3)	LYMPHOGRANULOMA VENEREUM **Both sexes:** ulcer, inguinal swelling (bubo), proctitis
Treponema pallidum	SYPHILIS **Both sexes:** primary ulcer (chancre) with local adenopathy, skin rashes, condylomata lata; bone, cardiovascular, and neurological damage **Women:** pregnancy wastage (abortion, stillbirth), premature delivery **Neonates:** stillbirth, congenital syphilis
Haemophilus ducreyi	CHANCROID **Both sexes:** painful genital ulcers; may be accompanied by bubo
Klebsiella (Calymmatobacterium) granulomatis	DONOVANOSIS (GRANULOMA INGUINALE) **Both sexes:** nodular swellings and ulcerative lesions of the inguinal and anogenital areas **Men:** urethral discharge (nongonococcal urethritis) **Women:** cervicitis, endometritis, probably pelvic inflammatory disease
Mycoplasma genitalium	**Men:** urethral discharge (nongonococcal urethritis) **Women:** cervicitis, endometritis, probably pelvic inflammatory disease
Viral infections	
Human immunodeficiency virus (HIV)	ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) **Both sexes:** HIV-related disease, AIDS
Herpes simplex virus type 2 Herpes simplex virus type 1 (less common)	GENITAL HERPES **Both sexes:** anogenital vesicular lesions and ulcerations **Neonates:** neonatal herpes (often fatal)
Human papillomavirus	GENITAL WARTS **Men:** penile and anal warts; carcinoma of the penis **Women:** vulval, anal, and cervical warts, cervical carcinoma, vulval carcinoma, anal carcinoma **Neonates:** laryngeal papilloma

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Pathogen	Clinical manifestations and other associated diseases
Viral infections (*continued*)	
Hepatitis B virus	VIRAL HEPATITIS Both sexes: acute hepatitis, liver cirrhosis, liver cancer
Cytomegalovirus	CYTOMEGALOVIRUS INFECTION Both sexes: subclinical or nonspecific fever, diffuse lymph node swelling, liver disease, etc.
Molluscum contagiosum virus	MOLLUSCUM CONTAGIOSUM Both sexes: genital or generalized umbilicated, firm skin nodules
Kaposi sarcoma associated herpesvirus (human herpesvirus type 8)	KAPOSI SARCOMA Both sexes: aggressive type of cancer in immunosuppressed persons
Protozoal infections	
Trichomonas vaginalis	TRICHOMONIASIS Men: urethral discharge (nongonococcal urethritis); often asymptomatic Women: vaginosis with profuse, frothy vaginal discharge; preterm birth, low-birth-weight babies Neonates: low birth weight
Fungal infections	
Candida albicans	CANDIDIASIS Men: superficial infection of the glans penis Women: vulvo-vaginitis with thick curd-like vaginal discharge, vulval itching, or burning
Parasitic infestations	
Phthirus pubis *Sarcoptes scabiei*	PUBIC LICE INFESTATION SCABIES

2.9 STI Prevention

In diagnosing and treating patients with STIs, we can effectively prevent complications and reduce the spread of these diseases to the general community. All persons who seek evaluation and treatment for STDs should be screened for HIV infection as well. Screening should be routine, regardless of whether the patient is known or suspected to have specific behavioral risks for HIV infection. Individuals who are infected with STDs are 5–10 times more likely than uninfected individuals to acquire or to transmit HIV through sexual contact. The breaking of the genital tract lining or skin creates a portal of entry for HIV, and HIV infected individuals with other STDs are more likely to shed HIV in their genital secretions. The most effective male

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method available for protection against STDs is the condom (Carlos 2008).. Areas that can be completely covered by the latex condom are less susceptible to acquire STDs and It is important to control the spread of STDs, and prevention can be the key to this process.

2.10 Diagnosis

Accurate diagnostic tests for STIs are widely used in high-income countries. These are especially useful for the diagnosis of asymptomatic infections. Since symptoms of common STIs tend to be non-specific and typically have a variety of different potential causal agents that may require different treatments (WHO, 2013), diagnostic testing is helpful both for purposes of accurate diagnosis and for guiding the management of sexual partners.

However, in low- and middle-income countries, diagnostic tests are largely unavailable. Where testing is available, it is often expensive and geographically inaccessible; and patients often need to wait a long time (or need to return) to receive results. As a result, follow up can be impeded and care or treatment can be incomplete. These tests vary greatly in terms of their level of complexity (i.e. the technical requirements for optimal test performance), in the costs required to perform them (both material- and labour-related), and in terms of performance (WHO, 2013). It should be noted that when considering the type of test, the time required for test results to become available to guide management should be considered, since infected persons may transmit infection to others, may suffer complications of infection, or maybe lost to follow-up in the interval between testing and notification of test results (Geisler, 2008). Test throughput (the numbers of tests completed in a given period) is also a consideration in test selection. In some settings, higher or lower volumes of tests will make some tests or test platforms preferable.

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2.10.1 Types of diagnostic tests

In general, diagnostic tests can be separated into at least three different types. The most obvious approach to STI diagnosis is the direct detection of microorganisms that causes the STIs. This may be carried out through the use of microscopy and appropriate staining or wet preparations to visualize pathogens. Culture, antigen detection, or nucleic acid detection using either amplified or non-amplified nucleic acid detection tests are often more sensitive than microscopy but may have more complex technical requirements for optimal test performance and may increase the interval between testing and the availability of test results (rapid point-of-care POC tests help to overcome the latter potential limitation), (WHO, 2013). Each of these approaches has its own strengths and shortcomings.

Microscopy, particularly when performed while patients are present, may provide immediate results to guide management decisions but, like other tests, requires specialized equipment (the microscope), may require electrical power or special stain procedures, and is dependent on the training and experience of the microscopist (WHO, 2013).

Traditionally, laboratory diagnosis has been the method of diagnosing STIs in order to determine the etiological agents. However, this method of diagnosis of STIs tends to be expensive in terms of equipment, reagents, infrastructure, and maintenance. To accommodate for situations where laboratory facilities are not available, World Health Organization developed guides on the use of the syndromic approach for the management of some STIs (Kuypers, 2008). An advantage of the syndromic diagnosis and treatment is that it provides immediate care at the patient's first port of call for assessment and it is inexpensive, its major shortcoming is the potential to over diagnose and over treat patients who may not be infected with any or some of the presumed causative organisms for the syndrome in question. Therefore, to support the syndromic approach to

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diagnosis, WHO (2013) suggests that local clinical laboratories should be encouraged to perform the tests needed to facilitate clinical management of persons with and at risk for STI. No single test is optimal for the detection of agents causing STIs. Considerations for choice of test should include the impact of the infection, the prevalence of the infection, the overall available resources for each STI to be tested (table 2.4).

Table 2.4 Considerations for choice of STI test

1. Purpose of testing
• Surveillance
• Quality assurance
• Evaluation of syndromic diagnosis
• Diagnosis
• Screening
• Antimicrobial susceptibility testing
2. Test-specific considerations
• Performance (sensitivity, specificity, predictive value)
• Specimen collection and transportation requirements
• Prevalence
• Associated morbidity
• Resources
• Financial
• Personnel
• Infrastructure (utilities, etc.)
• Relative importance among other priorities

SOURCE: WHO (2013)

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CHAPTER THREE

METHODOLOGY

3.1 Study Design

This is an analysis of secondary data- the 2012 National HIV/AIDS and Reproductive Health Survey (NARHS) in all 36 states and the Federal Capital Territory (FCT) in Nigeria. Males and females of reproductive ages 15-24 years were extracted from the data and analysed for sexually transmitted infection, health seeking behaviour and associated factors.

3.2 Description of the 2012 NARHS

NARHS is a nationally representative household survey involving males and females of reproductive age (female aged 15-49 and males aged 15-64). Its primary objective was to provide data on knowledge, attitudes, and behaviours regarding HIV & AIDS and reproductive health issues, as well as determine HIV prevalence estimates in the general population in Nigeria.

The survey is descriptive and cross-sectional in design with study area consisting of all the 36 states of Nigeria and the Federal Capital Territory (FCT). All females aged between 15 and 49 years and males aged 15 and 64 years living in Nigeria were the study population used in the survey.

Probability sampling was used for the survey. The sampling procedure was a (four-level) multi-stage cluster sampling aimed at selecting eligible persons with known probability. Stage 1 involved the selection of rural and urban localities followed by stage 2 which involved the selection of Enumeration Areas (EA) within the selected rural and urban localities. Listing of eligible individuals within households was carried out in stage 3 while the selection of actual respondents for interview and STI testing were carried out in stage 4.

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3.3 Secondary Data Used for Analysis

Overall, 31,235 individuals aged 15-64 years were successfully interviewed in the 2012 NARHS, (non response rate of 2.5%). Of these, 10091 respondents aged 15-24 years were extracted for analysis in this study of which 4508 (44.7%) and 5583 (55.3%) were males and females respectively. A total of 648 respondents aged 15-24years self reported ever had genital discharge or genital itching or genital sore/ulcer or genital rash in the last 12 months prior to the survey. Of these, 347 sought advice or treatment for their STIs.

Data for the 2012 NARHS were collected by personal interview method using structured and semi-structured questionnaire. The following are among the broad themes captured by survey individual questionnaire:

1) Household Characteristics

2) Background Characteristics of the respondents

3) Sexual behaviour

4) Condom accessibility and use

5) Knowledge of symptoms and treatment of STIs

6) Knowledge and perception of HIV & AIDS.

3.4 Variables

3.4.1 Dependent Variables

The main dependent variables examined and the questions asked to elicit data from the respondents.

1. STI symptom in last 12 months

Have experienced an abnormal genital discharge during the past 12 months? Similar questions were asked for other symptoms of STI such as genital itching, genital rash and genital sore/ulcer.

2. Source of advice or seeking treatment for STIs.

Did you seek advice or treatment from a government clinic/hospital when you experienced the symptoms? Similar questions were asked for other places of seeking advice or treatment such as workplace clinic, traditional healer, private pharmacy, religious clinic and patent medicine store.

3.4.2 Independent Variables

The categories of the independent variables are;

1. **Socio-demographic Variables**

These include age, sex, marital status, location, level of education, economic status, zone, religion, frequency of religious service attendance, and importance of religion in helping to deal with problems. A wealth index was constructed as a proxy to measure economic status. Method used was similar to that adopted by Mmari et al., (2010). This was based on respondents answer to questions regarding household possession of selected assets, method of sewage disposals, type of dwelling houses, number of meals per day for a month, source of water for drinking/ domestic use. A score of 1 was allocated to each item where found and 0 (zero) where not found. Then, a three-tier level of socio-economic status was computed into highest tercile, middle tercile and lowest tercile.

2. **Sexual behaviour variables**

Selected sexual behaviour variables analysed include condom use during last sexual act, consistent condom use, frequency of condom use within the last 3 months, number of sexual partner in the past 12 months, sex with sexual partners in last 12 months as well as sexual engagement with casual partner or sex worker. The question 'How many sexual partners have you had over the last 12 months?' was used to obtain information regarding the number of sexual partners. This was categorised as 0, 1, 2 and 3+. Follow up questions inquired about the number

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of current sexual partner by partner type. Also, a three-tier measures of age at first sexual intercourse was created (<15, 15-19, and 20-24 years). This was based on respondents answer to the question 'At what age did you first have sexual intercourse if ever?'

3. Condom use variables

Information regarding consistent condom use was obtained. Questions used were 'During the last 3 months, was a condom used with your spouse/partner with whom you are living together every time you had sex?' This was as well asked for other sexual partner types such as boyfriend/girlfriend, casual sexual partners and commercial sexual partners. Respondents were made to answer 'every time', 'sometimes' or 'never'. For the cross tabulations, measurement used was dichotomous. Respondents who reported 'sometimes' or 'never' were recorded as 'No' that is not consistent condom users while those who reported using condom every time were categorized as 'Yes'.

4. STI Knowledge Variables

Knowledge of STI was classified into 3 categories based on the answers to the questions: 'have you ever heard of a disease that can be transmitted through sexual intercourse?' 'Can STI prevent a man from fathering a child in the future?' 'Can STI prevent a woman from getting pregnant' and 'can you describe any symptom of STI?' A score of 1 and 0 were allocated for correct and incorrect answers respectively. Then a three-tier measure of STI knowledge was computed into lowest, middle and highest terciles.

5. Access to Information Variable

In addition, a three –tier measure of media exposure for radio and television were created (high, medium, low). This was based on respondents answer to the questions 'how often do you listen to radio/television; is it every day, almost every day, at least once a week, less than once a week

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or not at all' Respondents who reported watching or listening to radio or TV everyday/almost every day were classified as having high media exposure. Those who reported at least once a week were classified as having medium exposure while those who watch television or listen to radio for at most once weekly were classified as having low exposure.

6. Other Independent Variables

This included variables on alcohol use and smoking. Smoking status was based on respondents answer to questions such as 'do you currently smoke cigarettes'. A follow up question was 'do you currently smoke or use any other type of tobacco apart from cigarette'. To assess smoking status, respondents were asked the question 'Some people take alcohol, others don't. During the last 4 weeks, how often have you had drinks containing alcohol?' Measurement scale used was dichotomous. Respondents who reported; everyday, at least once a week or less than once a week were classified as 'Yes' while those who reported 'never' were regarded as 'No'.

3.5 Data Management and Analysis

All data analysis was done using SPSS version 20. Frequency and percentages were used to describe various independent and dependent variables and was compared by gender. Also, cross tabulations were done to compare young people who self- reported STI with those who did not. Comparison was also done by gender (Males and females) in each group. Bivariate analysis was done and Chi-square and p-value were calculated to examine bivariate relationship between self-reported STI and independent variables. Next, bivariate relationship was assessed between youth who sought treatment for STI and selected independent variables. To further investigate if association existed between place of seeking STI care and various independent variables, cross tabulation was examined for bivariate relationship between seeking STI care in government hospital or clinic across selected independent variables while chi-square and p-value were as

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well calculated for. Logistic regression was computed for variables that were statistically significant in the test for association, odds ratio (OR) and confidence interval (C.I) were calculated for the variables.

CHAPTER FOUR

RESULTS

4.1   Socio-demographic Characteristics of Nigerian Youth by Gender.

Table 4.1 shows selected socio-demographic characteristics of Nigerian youth by gender. Of the 10,091 respondents aged 15-24 years with mean age 19.1 years (SD=2.7), a larger percentage of both genders were located in the rural area, females 71.1% and males 68.2%. Nearly one-fifth, the greatest proportion lived in each of the country's North West and North Central Zones. Higher proportions of males (19.3% and 17.5%) and females (19.3% and 20.0%) lived in the North West and North Central zones respectively.   Overall, 71.2 % of the respondents were never married, 27.8% currently married/living with sexual partners while the rest were either divorced/separated or widowed. However, marital status differs strongly by gender- 89.1% of the males were never married, as against only 55.6% females. A vast majority of young people had secondary education (58.2%). By gender, 64.8% males and 52.9% females have had secondary education as compared to 10.4% males and 23.5% females with no formal education. On a three-tier level of socio-economic status, overall, higher number of respondents (34.9%) belonged to the lowest tercile of socio economic class. However, comparison across gender shows a higher percentage of males (35.9%) were of the highest socio-economic level unlike in females where a vast majority of them (38.2%) were of the lowest tercile. By religion, more than half (58.0%) of young people were Christians, 40.1% Muslims and the remainders were members of either traditional or other religious groups. There was no vast percentage difference in religion between genders. Over nine in 10 young people (90.6%) reported that religion is very important in helping them deal with problems.

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Table 4.1 Percentage Distribution of Nigerian Youth by Gender According to Selected Socio-Demographic Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic	All=10091	Males=4508 (%)	Females=5583 (%)
Age			
15-18	4415(43.8)	2095(46.5)	2320(41.6)
19-21	3300(32.7)	1387(30.8)	1913(34.3)
22-24	2376(23.5)	1026(22.8)	1350(24.2)
Location			
Urban	3050(30.2)	1435(31.8)	1615(28.9)
Rural	7041(69.8)	3073(68.2)	3968(71.1)
Zone			
North Central	1945(19.3)	870(19.3)	1075(19.3)
North East	1608(15.9)	688(15.3)	920(16.5)
North West	1910(18.9)	791(17.5)	1119(20.0)
South East	1501(14.9)	668(14.8)	833(14.9)
South South	1686(16.7)	778(17.3)	908(16.3)
South West	1441(14.3)	713(15.8)	728(13.0)
Marital Status			
CurrentlyMarried/Living with Sexual Partner	2759(27.3)	438(9.7)	2321(41.6)
Never married	7706(70.1)	3971(89.1)	3105(55.6)
Separated/divorced	87(.9)	22(.5)	65(1.2)
Widowed	11(.1)	1(.0)	10(.2)
Missing	158(1.6)	76(1.7)	82(1.5)
Education			
No Formal Education	2376(23.5)	718(15.9)	1658(29.7)
Primary	1074(10.6)	467(10.4)	607(10.9)
Secondary	5877(58.2)	2923(64.8)	2954(52.9)
Higher	748(7.4)	387(8.6)	361(6.5)
Missing	16(.2)	13(.3)	3(.1)
Socio-economic Status			
Lowest Tercile	3523(34.9)	1389(30.8)	2134(38.2)
Middle Tercile	3154(31.3)	1490(33.1)	1664(29.8)
Highest Tercile	3394(33.6)	1617(35.9)	1777(31.8)
Missing	20(.2)	12(.3)	8(.1)
Religion			
Islam	4128(40.9)	1798(39.9)	2330(41.9)
Christianity	5849(58.0)	2652(58.9)	3197(57.5)
Traditional	46(.5)	21(.5)	25(.4)
Other	18(.2)	9(.2)	9(.2)
Missing	50(.5)	28(.6)	22(.4)

4.2 Percentage Distribution of Nigerian Youth by Gender, Who Reported Ever Had Sex According to Selected Sexual Behaviour Characteristics.

A total of 5071 respondents (males =34.9%, female=66.1%) reported ever had sex (see table 4.2), 12.0% males compared to 15.3% females had their first sexual intercourse before age 15. A vast majority of the respondents, 63.0% had their first sexual intercourse between the ages of 15-19years; 62.0% males and 63.5% females. Fewer young people (17.2 % males and 12.1% females) delayed their age of first sex to 20-24years. Overall, 1.3% reported never had any sexual partner in the last 12 months while higher percentage reported to have had one sexual partner (69.8%), of which 55.1% were males and 77.3% females. More so, 6.5% of the respondents have had two sexual partners compared to 6.1% who have had 3 or more in the last 12 months. Overall, highest percentages reported having sex with boyfriend/girlfriend or spouse/cohabiting partner; 35.2% and 46.9% respectively. This varied widely across gender; 21.5% males compared with 59.8% of females reported having sex with spouse or cohabiting partner while 58.5% males and 23.3% females had sex with boyfriend/girlfriend in the last 12 months prior to survey. On the basis of selected sexual partner types, consistent condom use in the last 3 months was generally low. However, 55.3% and 68.4% reported condom use every time for sex with casual partner and commercial partners respectively, while as high as 93.0% and 35.8% of those having sex with spouse/cohabiting partner and boyfriend/girlfriend respectively never used condom in the last 3 months.

Table 4.2 Percentage Distribution of Nigerian Youth Who Reported Ever Had sex by Gender According to Selected Sexual Behaviour Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic	All=5071	Males=1718 (%)	Females=3353 (%)
Age at first sexual Intercourse			
<15	721(14.2)	207 (12.0)	514(15.3)
15-19	3193(63.0)	1065(62.0)	2128(63.5)
20-24	701(13.8)	296(17.2)	405(12.1)
Missing	456(9.0)	150(8.7)	306(9.1)
No. of sexual partner in last 12 months			
0	66(1.3)	27(1.6)	39(1.2)
1	3540(69.8)	947(55.1)	2593(77.3)
2	332(6.5)	231(13.4)	101(3.0)
3+	308(6.1)	213(12.4)	95(2.8)
Missing	825(16.3)	300(16.3)	525(15.7)
Sex with Spouse/cohabiting partner in last 12 months			
Yes	2376(46.9)	370(21.5)	2006(59.8)
No	2690(53.0)	1345(78.3)	1345(40.1)
Missing	5(.1)	3(.2)	2(.1)
Sex with boyfriend/girlfriend in last 12 months			
Yes	1787(35.2)	1005(58.5)	782(23.3)
No	3277(64.7)	712(41.4)	2565(76.5)
Missing	7(.1)	1(.1)	6(.2)
Sex with casual sex partner in the last 12 months			
Yes	176(3.5)	123(7.2)	53(1.6)
No	4889(96.4)	1592(92.7)	3297(98.3)
Missing	6(.1)	3(.2)	3(.1)
Had commercial Sex in last 12 months			
Yes	31(.6)	22(1.3)	9(.3)
No	5025(99.1)	1693(98.5)	3332(99.4)
Missing	14(0.3)	3(.2)	11(.3)
Condom use in last 3 months with spouse/cohabiting partner*			
Everytime	51(2.7)	8(2.6)	43(2.8)
Sometimes	79(4.3)	20(6.5)	59(3.8)
Never	1660(93.0)	274(90.9)	1386(93.4)
Condom use in last 3 months with boyfriend/girlfriend*			
Everytime	536(42.4)	335(45.8)	201(37.8)
Sometimes	275(21.8)	165(22.6)	110(20.7)
Never	452(35.8)	231(31.6)	221(41.5)
Condom use in last 3 months with casual sex partner*			
Everytime	52(55.3)	42(56.0)	10(52.6)

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Sometimes	10(10.6)	8(10.7)	2(10.5)
Never	32(34.1)	25(33.3)	7(36.8)
Condom use in last 3 months with commercial sex partner*			
Everytime	13(68.3)	10(71.4)	3(60.0)
Sometimes	4(15.7)	3(21.4)	1(20.0)
Never	3(15.8)	1(7.1)	1(20.0)

*(Respondents who reported ever had sex in last 3 months with respective sexual partners)

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4.3 Percentage Distribution of Nigerian Youth by Gender According to Selected Media Exposure and Lifestyle Characterstics.

Table 4.3 shows the percentage distribution of Nigerian youth according to selected media exposure and lifestyle characteristics. Overall, there was low media (radio and television) exposure. Across gender, 28.2% males as compared to 17.6% females had reported being exposed to radio everyday/almost everyday. Highest percentage (34.2%) of females unlike 19.9% males had no exposure to radio. Similarly, females (39.4%) and males (28.9%) reported no exposure to television. Percentage reporting alcohol use and smoking was higher in males (20.0%, 4.9%) compared to females (8.9%, 0.6%) respectively.

Table 4.3 Percentage Distribution of Nigerian Youth by Gender According to Selected Media Exposure and Lifestyle Variables, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic	All= 10091	Males=4508 (%)	Females=5583 (%)
Frequency of exposure to radio			
Everyday/Almost everyday			
Atleast once a week	2168(21.9)	1183(28.2)	985(17.6)
Less than once a week	2661(26.4)	1357(30.1)	1304(23.4)
Not at all	1831(18.1)	847(18.8)	984(17.6)
Missing	2808(27.8)	898(19.9)	1910(34.2)
	623(6.2)	223(4.9)	400(7.2)
Frequency of exposure to TV			
Everyday/Almost everyday	2017(20.0)	987(21.9)	1030(18.4)
Atleast once a week	2194(21.7)	1091(24.2)	1103(19.8)
Less than once a week	1685(16.7)	857(19.0)	828(14.8)
Not at all	3504(34.7)	1302(28.9)	2202(39.4)
Missing	691(6.8)	271(6.0)	420(7.5)
Alcohol Use			
Yes	1399(13.9)	900(20.0)	499(8.9)
No	8644(85.7)	3585(79.9)	5059(90.6)
Missing	48(.5)	23(.5)	25(.4)
Smoke Cigarette/other tobacco products			
Yes	256(2.5)	221(4.9)	35(.6)
No	9811(97.3)	4276(94.9)	5535(99.1)
Missing	24(.2)	11(.2)	13(.2)

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4.4 Percentage Distribution of Nigerian Youth by Gender Who Know/Correctly Identify Selected STI Symptoms in Females According to Selected STI Symptoms.

The percentage distribution of Nigerian youth who correctly identified selected STI symptoms in females according to selected STI symptoms is presented in table 4.4. Knowledge of itching as STI symptom in females was mostly correctly identified (42.8%) followed by genital discharge (34.7%), lower abdominal pain (24.9%) and burning pain on urination (23.6%). Among the least correctly identified were 13.1%, 12.3%, 9.1% for genital ulcers, painful sexual intercourse and swelling in the groin respectively. Overall, higher percentage of females reported more knowledge of STI symptoms in females apart from lower abdominal pain and burning urination more correctly identified as STI symptoms in females by males.

Table 4.4 Percentage Distribution of Nigerian Youth by Gender Who Know/Correctly Identify Selected STI Symptoms in Females According to Selected STI Symptoms, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic Knowledge of STI symptoms in females	All= 6164	Males=2947 (%)	Females=3217 (%)
Lower abdominal pain			
Yes	1536(24.9)	609(20.7)	927(28.8)
No	4615(74.9)	2329(79.0)	2286(71.1)
Missing	13(0.2)	9(0.3)	4(0.1)
Genital discharge			
Yes	2136(34.7)	878(29.8)	1258(39.1)
No	4014(65.1)	2060(69.9)	1954(60.7)
Missing	14(0.2)	9 (0.3)	5(0.2)
Foul Smelling			
Yes	1182(19.2)	476(16.2)	706(21.9)
No	4967(80.6)	2461(83.5)	1256(77.9)
Missing	15(0.2)	10(0.3)	5(0.2)
Burning pain on Urination			
Yes	1457(23.6)	712(24.2)	745(23.2)
No	4692(76.1)	2225(75.5)	2467(76.7)
Missing	15(0.2)	10(0.3)	5(0.2)
Genital Ulcers/sores			
Yes	807(13.1)	355(12.0)	452(14.1)
No	5343(86.7)	2583(87.6)	2760(85.8)
Missing	14(0.2)	9(0.3)	5(0.2)
Swelling in groin area			
Yes	559(9.1)	253(8.6)	306(9.5)
No	5591(90.7)	2685(91.1)	2906(90.3)
Missing	14(0.2)	9(0.3)	5(0.2)
Itching			
Yes	2638(42.8)	1066(36.2)	1572(48.9)
No	3512(57.0)	1872(63.5)	1640(51.0)
Missing	314(0.2)	9(0.3)	5(0.2)
Painful sexual intercourse			
Yes	758(12.3)	309(10.5)	449(14.0)
No	5391(87.5)	2628(89.2)	2763(85.9)
Missing	15(0.2)	10(0.3)	5(0.2)
Other			
Yes	636(10.3)	331(10.6)	325(10.1)
No	5511(89.4)	2626(89.1)	2885(89.7)
Missing	17(0.3)	10(0.3)	7(0.2)

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4.5 Percentage Distribution of Nigerian Youth by Gender Who Know/Correctly Identify Selected STI Symptoms in Males According to Selected STI Symptoms.

Percentage distribution of Nigerian youth by gender who know/correctly identify selected STI symptoms in males is presented in table 4.5. By gender, burning pain on urination was most correctly identified as symptom of STI in males (57.6% males vs 47.6% females) followed by genital discharge 34.8% of males and 28.2% of females. Generally, among the least reported knowledge of STI symptoms in males were genital ulcer/sores and swelling in groin area 15.4% and 14.5% respectively. Overall, STI knowledge was poor. On a three tier category of STI knowledge among all respondents, highest percentage (38.9%) was of the lowest tercile. However, there was gender difference, a greater percentage of females (42.4%) compared to 34.6% males were of the highest category of STI knowledge.

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Table 4.5 Percentage Distribution of Nigerian Youth by Gender Who Know/Correctly Identify Selected STI Symptoms in Males According to Selected STI symptoms, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic Knowledge of STI symptoms in males	All= 6164	Males=2947 (%)	Females=3217 (%)
Genital discharge			
Yes	1934(31.4)	1026(34.8)	908(28.2)
No	4213(68.3)	1911(64.8)	2302(71.6)
Missing	17(0.3)	10(0.3)	7(0.2)
Burning pain on urination			
Yes	3230(52.4)	1699(57.6)	1531(47.6)
No	2917(47.3)	1237(42.0)	1680(52.2)
Missing	17(0.3)	11(0.4)	6(0.2)
Genital ulcer /sores			
Yes	950(15.4)	518(17.6)	432(13.4)
No	5196(84.3)	2418(82.0)	2778(86.4)
Missing	18(0.3)	11(0.4)	7(0.2)
Swelling in groin area			
Yes	891(14.5)	507(17.2)	384(11.9)
No	5255(85.3)	2429(82.4)	2826(87.8)
Missing	18(0.3)	11(0.4)	7(0.2)
Other			
Yes	645(10.5)	309(10.5)	336(10.4)
No	5500(89.2)	2629(89.2)	2871(89.2)
Missing	19(0.3)	9(0.3)	10(0.3)
STI Knowledge +			
Highest tercile	3247(32.2)	1561(34.6)	2366(42.4)
Middle tercile	2917(28.9)	1440(31.9)	1477(26.5)
Lowest tercile	3927(38.9)	1507(33.4)	1740(31.2)

+ (N=10091-total number of youth aged 15-24 years)

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4.6   Percentage Distribution of Nigerian Youth by Gender According to Selected Self Reported STI Symptoms.

Generally, genital itching and abnormal genital discharge were the most self reported STI symptoms, 4.3% and 3.3% respectively. However by gender, genital itching was mostly reported; 6.0% females and 2.3% males whereas the least reported STI symptom was genital ulcer; (1.0% males vs 1.5% females). Overall, 6.5% of young people reported haven experienced at least one symptom of STI for 12 months preceding the survey. There was difference across gender; females had the highest percentage of self reported STI (8.1%) as compared to 4.3% males.

Table 4.6 Percentage Distribution of Nigerian Youth by Gender According to Selected Self Reported STI Symptoms in Last 12 Months Prior to Survey, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic	All= 10091	Males=4508 (%)	Females=5583 (%)
Abnormal genital discharge			
Yes	338(3.3)	97(2.2)	241(4.3)
No	9697(96.1)	4387(97.3)	5310(95.1)
Missing	56(.6)	24(.5)	32(.6)
Genital rash			
Yes	169(1.7)	58(1.3)	111(2.0)
No	9864(97.8)	4424(98.1)	5440(97.4)
Missing	58(.6)	26(.6)	32(.6)
Genital itching			
Yes	437(4.3)	102(2.3)	335(6.0)
No	9598(95.1)	4382(97.2)	5216(93.4)
Missing	56(.6)	24(.5)	32(.6)
Genital sore/ulcer			
Yes	129(1.3)	44(1.0)	85(1.5)
No	9906(98.2)	4439(98.5)	5467(97.9)
Missing	56(.6)	25(.6)	31(.6)
Self reported STI symptoms			
Yes	648(6.4)	193 (4.3)	455(8.1)
No	9386(93.0)	4291(95.7)	5095(91.3)
Missing	57(.6)	24(.5)	33(.6)

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4.7 Percentage Distribution of Nigerian Youth Who Sought Treatment for STI Symptoms.

Table 4.7 shows the distribution of Nigerian youth who reported at least one symptom of STI. Overall, more than half (53.5%) youth sought treatment for their STI symptoms. Across gender, 52.3% males and 54.1% females had sought treatment. Most reported formal source of seeking STI treatment was government clinic/hospital (17.1%) followed by private clinic (8.6%), private pharmacy (6.6%), and then workplace clinic (4.0%). Greater percentage of females (18.9%) compared to 13.0% males had sought STI treatment from government hospital or clinic. Patent medicine store was the most reported informal source of seeking STI treatment (14.8%) followed by traditional healer (10.3%), while religious clinic (1.1%) was least reported as source of seeking care. Overall, higher percentage of males sought treatment from informal sources; 12.4% of males sought STI treatment from traditional healer than females (9.5%). As much as 85.7% males and 76.4% females did not go back to place of seeking care after symptoms stopped. While 70.7% of the respondents completed all the medicines they were given, only 37.3% of females stopped having sex when they had STI symptom compared to 45.2% males. However, these difference in health seeking behaviour across gender were not statistically significant (P>.05).

Table 4.7 Percentage Distribution of Nigerian Youth Who Reported at Least One Symptom of STI in the 12 Months Prior to Survey, by Gender, According to Selected STI Treatment Seeking Behavior, 2012 National HIV/AIDS and Reproductive Health Survey.

Characteristic	All= 648	Males=193 (%)	Females =455 (%)	X^2	Pvalue
Sought treatment for STI					
Yes	347(53.5)	101(52.3)	246(54.1)	0.12	0.73
No	216(33.3)	60(31.1)	156(34.3)		
Missing	85(13.2)	32(16.6)	53(11.6)		
Place of seeking advice or treatment for STI					
Government Clinic or Hospital	111(17.1)	25(13.0)	86(18.9)		
Yes	453(69.9)	137(71.0)	316(69.5)	2.60	0.11
No	84(13.0)	31(16.1)	53(11.6)		
Missing					
Workplace clinic or hospital					
Yes	26(4.0)	9(4.7)	17(3.7)	0.46	0.50
No	538(83.0)	153(79.3)	385(84.6)		
Missing	84(13.0)	31(16.1)	53(11.6)		
Religious clinic or hospital					
Yes	7(1.1)	3(1.6)	4(0.9)	0.69	0.41
No	557(86.0)	159(82.4)	389(87.5)		
Missing	84(13.0)	31(16.1)	53(11.6)		
Private clinic or hospital					
Yes	56(8.6)	12(6.4)	44(9.7)	1.62	0.20
No	508(78.4)	150(77.7)	358(78.7)		
Missing	84(13.0)	31(16.0)	53(11.6)		
Private pharmacy					
Yes	43(6.6)	15(7.8)	28(6.2)	0.86	0.35
No	521(80.4)	147(76.2)	374(82.2)		
Missing	84(13.0)	31(16.1)	53(11.6)		
Traditional healer					
Yes	67(10.3)	24(12.4)	43(9.5)	1.87	1.71
No	497(76.7)	138(71.5)	359(78.9)		
Missing	84(13.0)	31(16.1)	53(11.6)		
Patent Medicine Store					
Yes	96(14.8)	30(15.5)	66(14.5)	0.40	0.53
No	467(72.1)	131(67.9)	336(73.8)		
Missing	85(13.1)	32(16.6)	53(11.6)		
Went for check after symptoms stopped*					
Yes	63(19.9)	12(14.3)	51(21.9)	2.44	0.12
No	250(78.9)	72(85.7)	178(76.4)		
Missing	4(1.3)	0(0.0)	4(1.7))		
Finished all the medicine given for STI					

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Treatment*					
Yes	224(70.7)	57(67.9)	167(71.7)	0.68	0.41
No	90(28.4)	27(32.1)	63(27.0)		
Missing	3(0.9)	0(0.0)	3(1.3)		
Stopped having sex when you had STI symptom*					
Yes	125(39.4)	38(45.2)	87(37.3)	1.41	0.24
No	189(59.6)	46(54.8)	143(61.4)		
Missing	3(0.9)	0(0.0)	3(1.3)		

*(N= Ever had sex and sought STI treatment)

RESULT SECTION B

4.8 Associations between Selected Socio-demographic Characteristics and self reported STIs.

Table 4.8 shows associations between selected socio-demographic characteristics with self reported STI as the dependent variable. Of the 5,071 respondents who reported ever had sex, higher percentage of females (10.7 %) compared to 7.3% males have had STI, this was found to have significant association (P<0.001). On the basis of education, self reported STI increased with increased level of education. This however reduced for educational level higher than secondary (P<0.001). Also, marital status was significantly associated with having STIs. Respondents who were divorced/separated reported having STIs than either the married or never married (P<0.001). Geo-political zones had significant association with self reported STIs, (P<0.001). Across the zones, highest percentage of self reported STIs (14.0%) was from the North Central Zone compared to the South West Zone with least reported STI (4.6%). More so, religion and frequency of religious service attendance were significantly associated with self reported STI (P<0.001) and (P<0.001) respectively. While more Christians than Muslims had reported having STIs, self reported STI was least reported among those who attend religious service everyday.

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Table 4.8 Cross Tabulation of Nigerian Youth Who Reported at Least one Symptom of STI in the 12 Months Prior to Survey According to Selected Socio-Demographic Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	STI symptom in last 12 months		Total (N=5071)	Chi square	P value
	Yes	No			
Gender					
Male	125(7.3)	1589(92.7)	1714	14.95	<0.001
Female	357(10.7)	2991(89.3)	3348		
Age group					
15-19	152(9.6)	1490(90.4)	1582	0.02	0.88
20-24	330(9.5)	3150(90.5)	3480		
Economic status					
Lowest Tercile	169(8.9)	1731(91.1)	1900		
Middle Tercile	146(9.00	1477(91.0)	1623	4.64	0.10
Highest Tercile	167(10.9)	1369(89.1)	1536		
Highest level of education					
No Formal Education	65(5.4)	1131(94.6)	1196		
Quaranic only	29(8.5)	314(91.5)	343	34.37	<0.001
Primary	55(10.4)	457(89.6)	530		
Secondary	288(11.4)	2240(88.6)	2528		
Higher	45(9.7)	418(90.3)	463		
Marital status					
Never married	265(11.4)	2058(88.6)	2323	19.47	<0.001
Currently married	204(7.8)	2412(92.2)	2616		
Separated/divorce/widowed	9(12.9)	61(87.1)	70		
Location					
Urban	130(9.6)	1231(90.4)	1361	0.01	0.97
Rural	352(9.5)	3349(90.5)	3701		
Zone					
North Central	144(14.0)	885(86.0)	1029		
North East	57(6.9)	771(93.1)	828	58.74	<0.001
North West	85(8.6)	904(91.4)	989		
South East	44(8.0)	504(92.0)	548		
South South	122(12.0)	893(88.0)	1015		
South West	30(4.6)	623(95.4)	653		
Religion					
Islam	148(7.0)	1969(93.0)	2117	30.77	<0.001
Christianity	331(11.5)	2553(88.5)	2884		
Other	2(3.6)	53(96.4)	55		
Frequency of religious service attendance					
Everyday	145(7.5)	1783(92.5)	1928		
More than once a week	200(11.5)	1532(88.5)	1732	19.49	<0.001
Once a week only	105(10.8)	868(89.2)	973		
Less than once a week	14(7.7)	169(92.3)	183		

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4.9 Association Between Sexual Behavioural Characteristics and Self Reported STIs.

Table 4.9 shows a cross tabulation of selected sexual behavioural characteristics with self reported STIs as the dependent variable. Age at first sexual intercourse was significantly associated with self reported STIs (P=0.04). Respondents whose age at first sex was below 15 years had high self reported STI symptoms than those who delayed their age at first sexual intercourse to 15-19 years and 20-24 years respectively. Those who have had more than one sexual partner in the last 12 months and respondents with concurrent sexual partners reported having STI than their counterparts. These were also found to be statistically significant (P<0.001) and (P<0.001) respectively. Higher percentage (12.6%) of those who had sexual engagement with casual partners reported having at least one symptom of STI as against those who did not. This was statistically significant (P<0.001). More so, higher percentage (12.4%) of respondents who consumed alcohol reported having had STIs as against (8.9%) who do not take alcohol (P<0.001).

Table 4.9 Cross Tabulation of Nigerian Youth Who Reported at Least One Symptom of STI in the 12 Months Prior to Survey According to Selected Sexual Behaviour and Associated Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	STI symptom in last 12 months		Total (N=5071)	Chi square	P value
	Yes	No			
Age at first sexual intercourse					
<15	91(12.7)	628(87.3)	719		
15-19	308(9.7)	2880(90.3)	3188	6.37	0.04
20-24	65(9.3)	635(90.7)	700		
No. of Sexual partners in past 12 months					
0	2(3.0)	64(97.0)	66		
1	325(9.2)	3208(90.8)	3533	36.34	<0.001
2	63(19.0)	268(81.0)	331		
3+	33(10.7)	274(89.3)	307		
Use of condom during last sexual act					
Yes	101(11.1)	807(88.9)	908	4.47	0.04
No	116(14.5)	682(85.5)	798		
Concurrent Sexual Partners					
Yes	72(14.6)	421(85.4)	493	12.93	<0.001
No	335(9.4)	3225(90.6)	3560		
Sexual engagement with casual partner or sex worker.					
Yes	215(12.6)	1491(87.4)	1706	24.21	<0.001
No	210(8.0)	2402(92.0)	2612		
Consistent condom use with spouse/cohabiting partner in last 3 months					
Yes	6(11.3)	47(88.7)	53	0.70	0.44
No	142(8.1)	1607(91.9)	1749		
Consistent condom use with boyfriend/girlfriend in last 3 months					
Yes	63(11.8)	472(88.2)	535	1.41	0.24
No	100(14.1)	611(85.9)	711		
Alcohol use					
Yes	121(12.4)	852(87.6)	973	11.55	<0.001
No	361(8.9)	3709(91.1)	4070		

*values may not add up to total due to missing values.

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4.10 Association Between STI Knowledge and Selected Media Exposure Characteristics with Self Reported STI.

Table 4.10 shows a cross tabulation of STI knowledge and media exposure with self reported STI as the dependent variable. Higher percentage (12.8%) of respondents in the highest tercile of STI knowledge self reported having STIs symptom as compared to 9.7% and 5.4% of middle and lowest terciles of STI knowledge respectively. This was found to be statistically significant (P<0.001). However, no significant association was found between media exposure (Television or Radio) and self reported STI.

Table 4.10 Cross Tabulation of Nigerian Youth Who Reported at Least One Symptom of STI in the 12 Months Prior to Survey According to STI Knowledge and Selected Media Exposure Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	STI symptom in last 12 months		Total (N=5071)	Chi square	P value
	Yes	No			
STI Knowledge					
Lowest Tercile	89(5.4)	1570(94.6)	1659	58.56	<0.001
Middle Tercile	137(9.7)	1269(90.3)	1406		
Highest tercile	256(12.8)	1741(87.2)	1997		
Media Exposure: Television					
High	98(10.2)	865(89.8)	963		
Middle	111(10.4)	953(89.6)	1064	1.30	0.52
Low	253(9.3)	2458(90.7)	2711		
Media Exposure : Radio					
High	106(9.6)	994(90.4)	1100		
Middle	123(9.5)	1166(90.5)	1289	0.15	0.93
Low	237(9.9)	2153(90.1)	2390		

* Values may not add to up to total due to missing values.

4.11 Association Between Selected Socio-demographic Characteristics and Seeking STI Treatment.

Cross tabulation of youth who sought STI treatment according to selected socio-demographic characteristics is presented in table 4.11. Seeking STI treatment is the dependent variable. Respondents age group was statistically significant with seeking STI treatment (P=0.04). Lowest proportion (54.8%) of those aged 15-18 years compared to those of higher age group had sought STI treatment. On the basis of economic status, respondents of the highest tercile of economic status had higher percentage (69.3%) reporting haven sought STI treatment than those of the middle (66.9%) and lower terciles (48.7%). This was found to be statistically significant (P<0.001). Similarly, statistical significance was found on the basis of education (P<0.001). Higher percentage (84.0%) who reported seeking STI treatment had above secondary education while those with no formal education were least to seek STI treatment. Also, religion was significantly associated with seeking STI treatment (P=0.03). Higher percentage of Christians as against 55.1% Muslims had sought STI treatment. Similarly, higher percentage (66.7%) of those whose religious service attendance is everyday reported seeking STI treatment than others who less frequently attend. Statistical significance for this was found (P=0.01). On the basis of geo-political zones, higher percentage, (72.9%) of respondents from South South sought treatment for their STI followed by South East (71.2%), West Zone (65.0%), North Central (62.3%), North West (48.0%) and North East (47.8%) as compared to zones (P<0.001).

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Table 4.11 Cross Tabulation of Nigerian Youth Who Sought STI Treatment According to Selected Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	Sought treatment Yes	No		Chi square	P value
Gender					
Male	101(62.7)	60(37.3)	161	0.12	0.73
Female	246(62.2)	156(38.8)	402		
Age group					
15-18	102(54.8)	84(45.2)	186	6.58	0.04
19-21	136(62.7)	81(37.3)	217		
22-24	109(61.6)	51(31.9)	160		
Marital status					
Never married	233(63.3)	135(36.7)	368	0.73	0.39
Currently married	109(59.6)	74(40.4)	183		
Economic Status					
Lowest Tercile	92(48.7)	97(51.3)	189	20.43	<0.001
Middle Tercile	115(66.9)	57(33.1)	172		
Highest Tercile	140(69.3)	62(30.7)	202		
Highest level of education					
No Formal Education	25(40.3)	37(59.7)	62	32.45	<0.001
Quaranic only	20(60.6)	13(39.4)	33		
Primary	28(44.4)	35(55.6)	63		
Secondary	232(65.4)	123(34.6)	355		
Higher	42(84.0)	8(16.0)	50		
Religion					
Islam	97(55.1)	79(44.9)	176	4.55	0.03
Christianity	246(64.6)	135(35.4)	381		
Frequency of religious service attendance					
Everyday	118(66.7)	59(33.3)	177		
More than once a week	153(65.7)	80(34.3)	233	10.73	0.01
Once a week only	64(54.7)	53(45.3)	117		
Less than once a week	6(35.3)	11(64.7)	17		
Location					
Urban	101(66.0)	52(34.0)	153	1.70	0.19
Rural	246(60.0)	164(40.0)	401		
Zone					
North Central	101(62.3)	61(37.7)	162		
North East	33(47.8)	36(52.2)	69		
North West	48(48.0)	52(52.0)	100	23.11	<0.001
South East	42(71.2)	17(28.8)	59		
South South	97(72.9)	36(27.1)	133		
South West	26(65.0)	14(35.0)	40		

* Values may not add to up to total due to missing values.

4.12 Association Between Selected Sexual Behavioural Characteristics and Seeking STI Treatment.

Table 4.12 shows the association between selected sexual behavioural characteristics and seeking STI treatment; - seeking STI treatment is the dependent variable. Higher percentage (75.5%) of respondents who delayed their age at first sexual intercourse to 20-24 years sought STI followed by 15-19 years and <15 years. However, this was not significantly associated with seeking STI treatment. Also, other sexual variables such as number of sexual partners, use of condom use during last sexual act, sexual engagement with casual or sexual partner and consistent condom use with spouse/cohabiting partner or boyfriend/girlfriend were not statistically significant with seeking STI treatment (P>0.05).

Table 4.12 Cross Tabulation of Nigerian Youth Who Sought STI Treatment According to Selected Sexual Behavioural Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variabless	Sought treatment			Chi square	P value
	Yes	No			
Age at first sexual intercourse					
<15	49(58.3)	35(41.7)	84		
15-19	183(67.5)	88(32.5)	271	4.56	0.10
20-24	40(75.5)	13(24.5)	53		
No. of Sexual partners in past 12 months					
0 or 1	195(66.8)	97(32.2)	292	1.29	0.26
2+	63(73.3)	23(26.7)	86		
Use of condom during last sexual act					
Yes	74(80.4)	18(19.6)	92		
No	78(72.9)	29(27.1)	107	1.56	0.21
Sexual engagement with casual partner or sex worker.					
Yes	101(61.2)	64(38.8)	165		
No	183(70.1)	78(29.9)	261	3.61	0.09
Consistent condom use with spouse/cohabiting partner in last 3 months					
Yes	4(80.0)	1(20.0)	5	0.81	0.34
No	78(60.0)	52(40.0)	130		
Consistent condom use with boyfriend/girlfriend in last 3 months					
Yes	49(83.1)	10(16.9)	59	1.04	0.31
No	70(78.8)	22(23.9)	92		

* Values may not add to up to total due to missing values.

4.13 Association Between Selected STI Knowledge and Media Exposure Characteristics with Seeking STI Treatment.

Cross tabulation of STI knowledge and media exposure, with STI treatment seeking as the dependent variable is presented in table 4.13. Higher percentage (76.4%) of respondents in the highest tercile of STI knowledge sought STI treatment as compared to 54.7% and 35.5% in middle and lowest terciles respectively. This was found to be statistically significant (P<0.001). Statistical significance (P<0.001) was found on the basis of media exposure. Highest percentage (72.2%) of those with high media exposure sought STI treatment than those of middle (54.7%) and lowest exposures (35.5%). This was similarly observed in exposure to radio. Youth with higher exposure sought more STI treatment than others (P=0.03).

Table 4.13 Cross Tabulation of Nigerian Youth Who Sought STI Treatment According to STI Knowledge and Selected Media Exposure Variables, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	Sought Treatment			Chi square	P value
	Yes	No			
STI Knowledge					
Lowest Tercile	38(35.5)	69(64.5)	107	59.79	<0.001
Middle Tercile	99(54.7)	82(45.3)	181		
Highest Tercile	210(76.4)	65(23.6)	275		
Media Exposure: Television					
High	83(72.2)	32(27.8)	115		
Middle	85(64.4)	47(35.6)	132	8.99	0.01
Low	167(56.6)	128(43.4)	295		
Media Exposure: Radio					
High	86(69.9)	37(30.1)	123	7.18	0.03
Middle	94(65.3)	50(34.7)	144		
Low	156(56.7)	119(43.3)	275		

* Values may not add to up to total due to missing values.

4.14 Associations between Selected Socio-demographic Characteristics and Seeking STI Treatment from Government Hospital/Clinic).

Table 4.14 shows association between selected socio-demographic characteristics with STI treatment seeking from government hospital/ clinic) as the dependent variable. Higher percentage of females (34.5 %) compared to 23.3% males sought STI treatment (P<0.03). Also, statistical significance was found on the basis of religion (P=0.045), higher percentage of respondents (38.6%) of the Islamic religion sought STI treatment as against 28.3% of Christians while respondents who attends religious service everyday (39.8%) sought treatment more than others who attends less frequency (P=0.003). Marital status was also found to be statistically significant (P=0.01). Higher percentage of the never married sought STI treatment than those who were currently married, (40.4%) and (26.2%) respectively. Across economic status, highest percentage (40.4%) of respondents from lowest tercile of economic status sought treatment for their STIs than those of the middle tercile (30.5%), and highest tercile (25.5%). This was statistically significant at (P<0.001). Higher percentage (56.1%) of North West zone sought treatment for their STI from government hospital/clinic followed by North East (39.5%), North Central zone (31.9%), South West (27.6%), South South (21.7%) and South East (17.6%) as compared to zones.

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4.14 Associations between Selected Socio-demographic Characteristics and Seeking STI Treatment from Government Hospital/Clinic).

Table 4.14 shows association between selected socio-demographic characteristics with STI treatment seeking from government hospital/ clinic) as the dependent variable. Higher percentage of females (34.5 %) compared to 23.3% males sought STI treatment (P<0.03). Also, statistical significance was found on the basis of religion (P=0.045), higher percentage of respondents (38.6%) of the Islamic religion sought STI treatment as against 28.3% of Christians while respondents who attends religious service everyday (39.8%) sought treatment more than others who attends less frequency (P=0.003). Marital status was also found to be statistically significant (P=0.01). Higher percentage of the never married sought STI treatment than those who were currently married, (40.4%) and (26.2%) respectively. Across economic status, highest percentage (40.4%) of respondents from lowest tercile of economic status sought treatment for their STIs than those of the middle tercile (30.5%), and highest tercile (25.5%). This was statistically significant at (P<0.001). Higher percentage (56.1%) of North West zone sought treatment for their STI from government hospital/clinic followed by North East (39.5%), North Central zone (31.9%), South West (27.6%), South South (21.7%) and South East (17.6%) as compared to zones.

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Table 4.14 Cross Tabulation of Nigerian Youth Who Sought STI Treatment from a Modern Health Facility (Government Hospital/ Clinic) According to Selected Socio-Demographic Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variable	Sought Treatment from Government Hospital/Clinic		Total (N=394)	Chi square	P value
	Yes	No			
Gender					
Male	27(23.3)	89(76.7)	116	4.83	0.03
Female	96(34.5)	182(65.5)	278		
Age group					
15-18	31(27)	84(73.0)	115	1.82	0.40
19-21	54(34.6)	102(65.4)	156		
22-24	38(30.9)	85(69.1)	123		
Religion					
Islam	44(38.6)	70(61.4)	114	4.01	0.045
Christianity	78(28.3)	198(71.7)	276		
Frequency of religious service attendance					
Everyday	53(39.8)	80(60.2)	133	8.97	0.03
More than once a week	44(26.2)	124(73.8)	168		
Once a week	18(23.4)	59(76.6)	77		
At most once a week	3(37.5)	5(62.5)	8		
Marital status					
Never married	53(42.4)	72(57.6)	125	10.27	0.01
Currently married	69(26.2)	194(73.8)	263		
Economic status					
Lowest Tercile	44(40.4)	65(59.6)	109		
Middle Tercile	39(30.5)	89(69.5)	128	6.69	0.03
Highest Tercile	40(25.5)	117(74.5)	157		
Highest level of education					
No Formal Education	13(40.6)	19(59.4)	32	7.56	0.11
Quaranic only	12(48.0)	13(52.0)	25		
Primary	11(32.4)	23(67.6)	34		
Secondary	69(27.1)	186(72.9)	255		
Higher	18(37.5)	30(62.5)	48		
Age at first sexual intercourse					
<15	14(26.4)	39(73.6)	53	1.30	0.53
15-19	64(32.1)	141(68.8)	205		
20-24	16(37.2)	27(62.8)	43		
Location					
Urban	37(33.3)	74(66.7)	111	0.32	0.57
Rural	86(30.4)	197(66.9)	283		

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Zone					
North Central	36(31.9)	77(68.1)	113		
North East	15(39.5)	23(60.5)	38		
North West	32(56.1)	25(43.9)	57	26.74	<0.001
South East	9(17.6)	42(82.4)	51		
South South	23(21.7)	83(78.3)	106		
South West	8(27.6)	21(72.4)	29		

* Values may not add to up to total due to missing values.

4.15 Associations Between Selected Sexual Behavioural Characteristics and Seeking STI Treatment from Government Hospital/ Clinic).

Association between selected sexual behavioural characteristics and seeking STI treatment from government hospital/ clinic is presented in table 4.15. STI Treatment seeking from Government Hospital/Clinic) is the dependent variable. Higher percentage (43.1%) of respondents with sexual engagement with casual or sexual partner sought STI than 25.9% of those who did not. This was statistically significant with seeking STI treatment from government hospital/clinic (P=0.02). However, other sexual variables such as age at first sexual intercourse, number of current sexual partners, number of sexual partners, condom use during last sexual act and consistent condom use with spouse/cohabiting partner or boyfriend/girlfriend were not statistically significant with seeking STI treatment from government hospital/clinic (P>0.05).

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Table 4.15 Cross Tabulation of Nigerian Youth Who Sought STI Treatment from Government Hospital/Clinic According to Selected Sexual Behavioural Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variable	Sought Treatment from Government Hospital/Clinic		Total (N=394)	Chi square	P value
	Yes	No			
Age at first sexual intercourse					
<15	14(26.4)	39(73.6)	53		
15-19	64(32.1)	141(68.8)	205	1.32	0.53
20-24	16(37.2)	27(62.8)	43		
Current sexual partner					
0 or 1	76(33.5)	151(66.5)	227	1.14	0.29
2+	14(25.9)	40(74.1)	54		
No. of Sexual partners in past 12 months					
0 or 1	71(32.4)	148(67.6)	219		
2+	19(27.9)	49(72.1)	68	0.48	0.48
Use of condom during last sexual act					
Yes	18(22.2)	63(77.8)	81	0.08	0.78
No	20(24.1)	63(75.9)	83		
Consistent condom use with spouse/cohabiting partner in last 3 months					
Yes	1(20.0)	4(80.0)	5	0.89	0.34
No	36(41.4)	51(58.6)	87		
Consistent condom use with boyfriend/girlfriend in last 3 months					
Yes	14(25.9)	40(74.1)	54	1.82	0.18
No	12(16.2)	62(83.8)	74		
Sexual engagement with casual partner or sex worker.					
Yes	50(43.1)	66(56.9)	116	10.01	0.02
No	52(25.9)	149(74.1)	201		

* Values may not add to up to total due to missing values.

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4.16 Associations Between Selected STI Knowledge, Lifestyle and Media Exposure with Seeking STI Treatment from Government Hospital/ Clinic).

Table 4.16 shows a cross tabulation of STI knowledge, lifestyle and media exposure with seeking STI treatment from government hospital/clinic is the dependent variable. For lifestyle variables, higher percentage (35.2%) of respondents who do not consume alcohol sought treatment than those who did (20.2%). This was found to be statistically significant. However, STI knowledge and media exposure (radio or television) were not statistically significant with seeking treatment from government hospital/clinics (P>0.05).

4.16 Associations Between Selected STI Knowledge, Lifestyle and Media Exposure with Seeking STI Treatment from Government Hospital/ Clinic).

Table 4.16 shows a cross tabulation of STI knowledge, lifestyle and media exposure with seeking STI treatment from government hospital/clinic is the dependent variable. For lifestyle variables, higher percentage (35.2%) of respondents who do not consume alcohol sought treatment than those who did (20.2%). This was found to be statistically significant. However, STI knowledge and media exposure (radio or television) were not statistically significant with seeking treatment from government hospital/clinics (P>0.05).

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Table 4.16 Cross Tabulation of Nigerian Youth Who Sought from a Government Hospital/Clinic STI Treatment According to STI Knowledge and Selected Media Exposure Variables, 2012 National HIV/AIDS and Reproductive Health Survey.

Variable	Sought Treatment from Government Hospital/Clinic		Total (N=394)	Chi square	P value
	Yes	No			
STI Knowledge					
Lowest Tercile	16(34.0)	31(66.0)	47	0.83	0.66
Middle Tercile	39933.6)	77(66.4)	116		
Highest Tercile	68929.4)	163(70.6)	231		
Media Exposure					
Television					
High	25(28.1)	64(71.9)	89	5.10	0.08
Middle	26(26.0)	74(74.0)	100		
Low	71(37.8)	117(62.2)	188		
Media Exposure: Radio					
High	27(28.1)	69(71.9)	96		
Middle	32(29.9)	75(70.1)	107	0.63	0.73
Low	58(32.6)	120(67.4)	178		
Alcohol Use					
Yes	21(20.2)	83(79.8)	104	8.00	0.01
No	102(35.2)	188(64.8)	290		

Values may not add to up to total due to missing values.

RESULT SECTION C

4.17   Logistic Regression of Self Reported STI According to Selected Variables.

Logistic regression of self reported STI according to selected variables is shown in table 4.17. Across gender, females were more likely to have at least one symptom of STI than males (OR=2.65, 95% CI=2.01-3.50). There was significant positive relationship between respondents' educational status and having STIs. Respondents of quaranic/primary school education and secondary education/higher were more likely than their counterparts of no formal education to report having at least one symptom of STI (OR=1.76, 95% CI= 1.19-2.60) and (OR= 1.84, 95% CI=1.24-2.74) respectively. Also, respondents from all zones were more likely than South West zone to have STI, however, North Central zone was most likely to self report having STIs (OR=4.38, 95% CI=2.72-7.05). By religion, respondents who are Christians were more likely than their Islamic counterparts to have at least one STI symptom (OR=1.43, 95% CI=1.03-1.96) whereas delaying age at first sexual intercourse to 15-19 years was protective of having STI than age at first sex <15 years (OR=0.62, 95% CI= 0.46-0.83). Multiple sexual partnerships and alcohol consumption were found to be risk factors to having STI (OR=1.76, 95% CI=1.31-2.37) and (OR=1.49, 95% 95% CI=1.13-1.98) respectively. For respondents who used condom during their last sexual act, they were found to be less likely to have at least one symptom of STI (OR=0.69, 95% CI= 0.50- 0.94). Media exposure and knowledge of STI were protective of STI as respondents in the highest categories of STI knowledge and those having high media exposure were less likely to have STI compared to their counterparts (OR=0.69, 95% CI=053-0.89) and (OR=0.75, 95% CI=0.58-0.98) respectively.

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Table 4.17 Logistic Regression of Nigerian Youth Who Reported at Least one Symptom of STI in the 12 Months Prior to Survey According to Selected Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	Odd ratio	95% C I for OR	P value
Gender			
Male (ref)	1.00		
Female	2.65	2.01-3.50	<0.001
Highest level of education			
No Formal Education (ref)	1.00		
Quaranic/primary school	1.76	1.19-2.60	0.004
Secondary/Higher	1.84	1.24- 2.74	0.002
Zone			
South West (ref)	1.00		
North Central	4.38	2.72- 7.05	<0.001
North East	2.05	1.18- 3.55	0.011
North West	3.89	2.29- 6.63	<0.001
South East	1.61	0.93- 2.79	0.092
South South	2.09	1.29-3.41	0.003
Religion			
Islam (ref)	1.00		
Christianity	1.43	1.03- 1.96	0.031
Age at first sexual intercourse			
<15 (ref)	1.00		
15-19	0.62	0.46- 0.83	0.001
20-24	0.71	0.48- 1.05	0.084
No. of Sexual partners in past 12 months			
1	1.00		
2+	1.76	1.31- 2.37	<0.001
Use of condom during last sexual act			
No (ref)	1.00		
Yes	0.69	0.50- 0.94	0.018
Alcohol use			
No (ref)	1.00		
Yes	1.49	1.13- 1.98	0.005
STI Knowledge			
Lowest Tercile (ref)	1.00		
Middle Tercile	0.46	0.34- 0.64	<0.001
Highest tercile	0.69	0.53- 0.89	0.004
Media Exposure: Radio			
Low (ref)	1.00		
Middle	0.95	0.72- 1.27	0.747
High	0.75	0.58 – 0.98	0.038

Table 4.17 Logistic Regression of Nigerian Youth Who Reported at Least one Symptom of STI in the 12 Months Prior to Survey According to Selected Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	Odd ratio	95% C I for OR	P value
Gender			
Male (ref)	1.00		
Female	2.65	2.01-3.50	<0.001
Highest level of education			
No Formal Education (ref)	1.00		
Quaranic/primary school	1.76	1.19-2.60	0.004
Secondary/Higher	1.84	1.24- 2.74	0.002
Zone			
South West (ref)	1.00		
North Central	4.38	2.72- 7.05	<0.001
North East	2.05	1.18- 3.55	0.011
North West	3.89	2.29- 6.63	<0.001
South East	1.61	0.93- 2.79	0.092
South South	2.09	1.29- 3.41	0.003
Religion			
Islam (ref)	1.00		
Christianity	1.43	1.03- 1.96	0.031
Age at first sexual intercourse			
<15 (ref)	1.00		
15-19	0.62	0.46- 0.83	0.001
20-24	0.71	0.48- 1.05	0.084
No. of Sexual partners in past 12 months			
1	1.00		
2+	1.76	1.31- 2.37	<0.001
Use of condom during last sexual act			
No (ref)	1.00		
Yes	0.69	0.50- 0.94	0.018
Alcohol use			
No (ref)	1.00		
Yes	1.49	1.13- 1.98	0.005
STI Knowledge			
Lowest Tercile (ref)	1.00		
Middle Tercile	0.46	0.34- 0.64	<0.001
Highest tercile	0.69	0.53- 0.89	0.004
Media Exposure: Radio			
Low (ref)	1.00		
Middle	0.95	0.72- 1.27	0.747
High	0.75	0.58 – 0.98	0.038

4.18 Logistic Regression of Seeking STI Treatment According to Selected Characteristics.

Table 4.18 shows the logistic regression of youth who sought STI treatment according to selected variables. Education was found to be significantly associated with seeking STI treatment. Respondents of secondary/higher education were more likely than their counterparts of no formal education to seek STI treatment (OR=2.41, 95% CI=1.05-5.51). Also, statistical significance was found on the basis of economic status, youth of the middle economic status were more likely than those of the lowest status to seek STI treatment (OR=1.78, 95% CI=1.01-3.14). There was significant association between STI knowledge and seeking STI. Respondents in the highest tercile of knowledge were more likely to have sought STI treatment as compared to those of low STI knowledge (OR=4.41, 95% CI=2.44 -7.96). Alcohol use was found to be significantly associated with seeking STI treatment in this study while youth who take alcohol were more likely seek STI treatment (OR=2.32, 95% CI=1.25-4.33). However, several factors were not statistically significant with seeking treatment for STI. These include, marital status, media exposure (radio and television), and geo-political zone.

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4.18 Logistic Regression of Seeking STI Treatment According to Selected Characteristics.

Table 4.18 shows the logistic regression of youth who sought STI treatment according to selected variables. Education was found to be significantly associated with seeking STI treatment. Respondents of secondary/higher education were more likely than their counterparts of no formal education to seek STI treatment (OR=2.41, 95% CI=1.05-5.51). Also, statistical significance was found on the basis of economic status, youth of the middle economic status were more likely than those of the lowest status to seek STI treatment (OR=1.78, 95% CI=1.01-3.14). There was significant association between STI knowledge and seeking STI. Respondents in the highest tercile of knowledge were more likely to have sought STI treatment as compared to those of low STI knowledge (OR=4.41, 95% CI=2.44 -7.96). Alcohol use was found to be significantly associated with seeking STI treatment in this study while youth who take alcohol were more likely seek STI treatment (OR=2.32, 95% CI=1.25-4.33). However, several factors were not statistically significant with seeking treatment for STI. These include, marital status, media exposure (radio and television), and geo-political zone.

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Table 4.18 Logistic Regression of Nigerian Youth Who Reported Seeking STI Treatment According to Selected Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	Odd ratio	95% C I for OR	P value
Marital status			
Single	1.00		
Married	0.84	0.48-1.45	0.526
Age			
15-19 (ref)	1.00		
20-24	1.16	0.73- 1.85	0.522
Age at first sexual intercourse			
<15 (ref)	1.00		
15-19	1.72	0.89-3.27	0.102
20-24	2.42	0.93-6.30	0.071
Highest level of education			
No Formal Education (ref)	1.00		
Quaranic/primary school	1.34	0.58- 3.11	0.049
Secondary/Higher	2.41	1.05- 5.51	0.037
Zone			
North East (ref)	1.00		
North West	0.91	0.42-1.95	0.803
North Central	1.47	0.73- 2.95	0.278
South West	1.66	0.60-4.57	0.325
South East	2.00	0.80- 5.02	0.136
South South	1.51	0.67- 3.38	0.321
Economic Status			
Lowest Tercile (ref)	1.00		
Middle Tercile	1.78	1.01-3.14	0.045
Highest Tercile	1.50	0.81-2.78	0.195
Alcohol use			
No (ref)	1.00		
Yes	2.32	1.25-4.33	0.008
Frequency of religious service attendance			
Everyday (ref)	1.00		
More than once a week	0.38	0.22- 0.66	0.001
At most once a week	0.27	0.15- 0.50	<0.001
STI Knowledge			
Lowest Tercile (ref)	1.00		
Middle Tercile	1.73	0.95- 3.16	0.074
Highest tercile	4.41	2.44- 7.96	<0.001
Media Exposure: Radio			
Low (ref)	1.00		
Middle	0.89	0.46- 1.69	0.711
High	0.91	0.51- 1.64	0.752

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Media Exposure: Television			
Low (ref)	1.00		
Middle	0.83	0.42- 1.64	0.597
High	1.03	0.52- 2.05	0.931

4.19 Logistic Regression of Seeking STI Treatment from Government Hospital/Clinic According to Selected Characteristics.

Logistic regression of youth who sought STI treatment from government hospital/Clinic according to selected variables is shown in table 4.19. Respondents of age group, 20-24 years were more likely than those of 15-19 years to seek STI treatment from government hospitals/clinics (OR=2.19, 95% CI=1.13–4.30). Also, knowledge of STI was found to be significantly associated with seeking treatment from government hospital/clinic. On the basis of knowledge, respondents of middle and highest tercile of STI knowledge were more likely to seek treatment from government hospital/clinics compared to their counterparts who had low knowledge of STI (OR=3.09, 95% CI= 1.17- 8.18) and (OR=2.86, 95% CI=1.14-7.17). Frequency of religious service attendance had significant association with seeking STI treatment. Respondents who attend religious service less frequently were less likely to seek treatment from government hospital (OR=0.33, 95% CI=0.17- 0.65). Other variables such as number of sexual partners in last 12 months, age at first sexual intercourse, geo- political zone, location, level of education, and marital status were not statistically significant with seeking STI treatment from government hospital/clinics.

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Table 4.19 Logistic Regression of Nigerian Youth Who Sought STI Treatment from Government Hospital According to Selected Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey

Variables	Odd ratio	95% C I for OR	P value
Marital status			
Single (ref)	1.00		
Married	1.62	0.81-3.26	0.173
Age			
15-19 (ref)	1.00		
20-24	2.19	1.13-4.30	0.023
Location			
Rural	1.00		
Urban	1.11	0.59- 2.08	0.754
Highest level of education			
No Formal Education (ref)	1.00		
Quaranic/primary school	1.21	0.42- 3.49	0.738
Secondary/Higher	1.72	0.61– 4.85	0.302
Zone			
North East (ref)	1.00		
North West	2.93	1.00- 8.46	0.047
North Central	1.14	0.41-3.18	0.798
South West	2.46	0.54- 11.24	0.247
South East	0.72	0.17- 3.05	0.658
South South	1.19	0.39-3.65	0.766
Age at first sexual intercourse			
<15 (ref)	1.00		
15-19	1.26	0.56- 2.78	0.584
20-24	1.47	0.50- 4.27	0.481
No of sexual partners in last 12 months			
1	1.00		
2+	1.10	0.54-2.25	0.788
Frequency of religious service attendance			
Everyday (ref)	1.00		
More than once a week	0.33	0.17-0.65	0.002
At most once a week	0.32	0.15-0.68	0.003
STI Knowledge			
Lowest Tansile (ref)	1.00		
Middle Tansile	3.08	1.17- 8.16	0.023
Highest tansile	2.86	1.14- 7.17	0.025

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Table 4.19 Logistic Regression of Nigerian Youth Who Sought STI Treatment from Government Hospital According to Selected Characteristics, 2012 National HIV/AIDS and Reproductive Health Survey.

Variables	Odd ratio	95% C I for OR	P value
Marital status			
Single (ref)	1.00		
Married	1.62	0.81-3.26	0.173
Age			
15-19 (ref)	1.00		
20-24	2.19	1.13-4.30	0.023
Location			
Rural	1.00		
Urban	1.11	0.59- 2.08	0.74
Highest level of education			
No Formal Education (ref)	1.00		
Quaranic/primary school	1.21	0.42- 3.49	0.726
Secondary/Higher	1.72	0.61- 4.85	0.302
Zone			
North East (ref)	1.00		
North West	2.93	1.01- 8.46	0.047
North Central	1.14	0.41-3.18	0.798
South West	2.46	0.54- 11.24	0.247
South East	0.72	0.17- 3.05	0.658
South South	1.19	0.39-3.65	0.766
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2+	1.10	0.54-2.25	0.788
Frequency of religious service attendance			
Everyday (ref)	1.00		
More than once a week	0.33	0.17-0.65	0.002
At most once a week	0.32	0.15-0.68	0.003
STI Knowledge			
Lowest Tercile (ref)	1.00		
Middle Tercile	3.09	1.17- 8.18	0.023
Highest tercile	2.86	1.14- 7.17	0.025

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 DISCUSSION

This study examined health seeking behaviour of young people with STI aged 15-24 years in Nigeria. Overall, knowledge of STI symptoms was low across gender, females were more likely than males to report having STI. While higher proportion of male sought treatment for STI from informal sources, higher percentage of females sought care from formal sources such government hospital. STI was more prevalent in females than males, however, a vast majority of those aged 15-24 years did not go back to place of seeking STI care to check after symptoms stopped while approximately 1 out of 3 of them did not finish the medicine given for their STI treatment.

The low STI knowledge found in this study compares well with Ajuwon in 2006 that females in Nigeria generally had higher knowledge of reproductive health issues than their male counterparts. This could be partly attributed to the fact that since the effect of reproductive health such as STI, abortion or unwanted pregnancy affects majorly the females, they are more likely than boys to seek for related information regarding their health. Also, parents are more likely to discuss reproductive health issues with girls than boys as the belief in Nigeria that boys will learn somehow through experimentation (Ajuwon 2006). The generally low STI knowledge observed in this study could be consequent to the fact that most sex related sensitization programs for youth focus more on HIV/AIDS thereby disproportionately neglecting STI which are important cofactor for HIV transmission and acquisition. This supports a study that young people in

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Nigeria had little knowledge of other STIs apart from HIV/AIDS. For STI symptoms, genital discharge, genital itching and lower abdominal pains were the fairly recognized symptom in females while genital discharge and burning pain on urination as symptoms in males, however, youths were hardly aware of other signs and symptoms of STIs. Very few youth had knowledge of symptoms such as swelling in the groin area, foul smelling of discharge, painful sexual intercourse and genital ulcers/sores. These were least correctly identified as symptoms of STI. This supports a study in Ethiopia by Cherie and Berhane, (2012) that young people are not aware of STI symptoms. Also by gender, this study found that higher proportions of males than females were of the lowest tercile of STI knowledge. The implication is that males of low STI knowledge are unlikely to be aware of STI preventive measures and often times may be involved in unprotected sexual intercourse thereby increasing the risk of infection. More so, low STI knowledge can affect the behaviour towards seeking STI treatment. Youth may not seek healthcare when they are unaware of the signs and symptoms. Thus there is an increased risk of transmission of infection and development of adverse complications. There is therefore urgent need to continue to educate young people on the knowledge of STIs and benefit for getting appropriate STIs treatment.

Among youth who ever had sexual intercourse, this study found that 6.4% of them reported having experienced at least one symptom of STI in the 12 months preceding the survey. Similar finding (6.8%) was reported by Fatusi and Wang (2009) among males of the same age group in Nigeria. However by gender, higher percentage (8.1%) females compared to 4.3% males were found in this study. This compares well with less than 10% and less than 2% reported by Dehne and Riedner (2005) among Nigerian females and Tanzania males respectively. This study also found highest proportion of young people reported having genital itching and genital discharge.

This was similarly observed in Mmari et al., (2010) and Abdulsalami and Tekena (2006) that higher proportion of both gender had genital discharge and genital itching. However, the least reported STI symptoms experienced were genital rash and genital sore/ulcer. In line with previous studies, Abdulsalami and Tekena (2006) observed that across both genders among sexually active individuals, genital ulcer was the least reported STI symptom. Gender difference in STI prevalence observed in this study could be partly attributed to the reason that young people, especially girls are more vulnerable to STIs than boys biologically and, in many settings, are at higher risk because they have older sexual partners (Dehne and Riedner 2005). In addition, the difference could be linked to their age at first sexual intercourse as this study found that higher percentage of females as compared to males who have ever had sex had their first sexual intercourse below age 15. Due to the fact that most STIs in females are asymptomatic, this increase in self reported STI observed is a pointer that STI prevalence in female may be higher as majority of females could have symptoms unreported as such symptoms do not present themselves.

Among factors relating to STI, findings from this study showed that females were more likely to report having at least one symptom of STIs. This corroborates the study in Nigeria by Abdulsalami and Tekena (2006) that women were more likely to report having experienced STI symptoms. Interestingly, sexually active youth with higher levels of education were more likely to report having at least a symptom of STI in the 12 months preceding the survey. Possible explanation could be that those in secondary schools and above were older and were likely to be more sexually active as majority was in their puberty. Across geopolitical zones, respondents in the three Northern zones (North East, North West and North Central Zone) were more likely to have at least any STI symptom than the Southern zones (South East, South West and South

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South). Overall, the North Central zone was most likely than other zones to report having STI in the preceding 12 months to the survey, followed by the North West and North East zones respectively. This high increase in the North Central zone could be partly likened to the study by Abdulsalami and Tekena (2006) that the highest level of multiple partnering for males was highest in the North-Central zone which may explain the extensive STI transmission observed within this zone. More so, considering the educational status in the Southern zones which is comparatively higher than in Northern zones. This increased educational status in the south could be attributed to increased STI knowledge which may determine the STI preventive behaviours. Based on religion, this study found that Christians were more likely to report having STI symptom than Muslims. Since STI is consequent to unprotected sexual activities, this could be likened to findings that Muslims respondents of same age group (15-24 years) were less likely than Christians and other religion practitioners to have had sexual intercourse (Ajuwon et al.,2006). Respondents who had multiple sexual partners were more likely to report having STI while condom use during sex was protective of STI. However, respondents who consume alcohol were at more risk of having STIs. Alcohol consumption is related to risky sexual behaviours such as unprotected sexual activities and those concerned may lack the ability to insist on protected sex by undermining the risk of STI especially when under the influence of alcohol. Furthermore, young people whose age at first sexual intercourse was above 15 years were less likely to have STI than their peers. This is consistent with findings from other studies (Fatusi and Wang 2009; kahn et al., 2002). Fatusi and Wang (2009) reported that young males in Nigeria who commenced sexual intercourse before age 16 (for this study higher percentage reported age at first sexual intercourse at <15years) had a risk of reporting STIs twice as high as that of their peers. Possible explanation is that early sexual initiators are likely involved in higher

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risky sexual behaviours that contribute to this significant association, thus it's a marker of the risk of contracting STI. Similar findings were reported by (Kaestle et al., 2005). Knowledge was protective of STIs in this study, respondents with highest level of STI knowledge were less likely to report having STI. Possible reasons could be that better educated young people may have had access to more information regarding STI and thus may suggest a link between high educational attainment and increased STI knowledge. Consequently such knowledge may result to use of STI preventing measures.

This study revealed that more than half of youth who reported at least one symptom of STI in the 12 months prior to review sought treatment for their STIs, this is comparable with the findings in Ethiopia by Cherie and Berhane in 2012. Though little difference was observed by gender, however, Mmari et al., (2010) reported that males were more likely than females to seek treatment for their symptoms. Most reported source of seeking STI treatment in this study is government clinic/hospital. This corroborates previous studies that majority of young people recognized hospital as a place for STI treatment (Odion Ataman 2010; Adebola 2005). Greater percentage of females than males had sought STI treatment from formal sources such as government clinic/hospital. This could be explained as observed in this study that majority of the females had high STI knowledge than males and government clinics are often viewed as having qualified staff, thus females with such increased STI knowledge tend to seek qualified care for their STIs. To support this, Dehne and Reidner (2005) reported that such gender difference in seeking STI treatment may be linked to the notion that clinics are regarded as being for women as well as the fact that males may feel uncomfortable when being treated especially by a female provider. Conversely, this study found that higher percentage of males sought treatment from informal sources such as traditional healers. This difference in seeking health care among gender

is similarly observed in a Nigerian study by (Mmari et al.,2010). Several reasons are likely to be attributed to this gender difference in seeking health care; traditional healers are perceived to be confidential and their mostly unexposed locations give sense of privacy as they are often less busy than government clinics. Marchand (2000) found that gaining access to traditional healers was perceived as being better than access to modern source of seeking care such as government clinics. Also Kehinde, (2014) reported lack of confidentiality, stigmatization by medical practitioners and slow service as some hindrances faced by youth adult in seeking care from formal sources. For those who sought treatment from traditional healers, it is however uncertain if the purpose of treatment was achieved. Among the least places reported for seeking STI treatment from informal sources were private pharmacies, religious clinics or hospital and workplace clinic or hospitals. Likely reasons for this observed treatment seeking behaviour pattern could be attributed to the increased cost of treatment from private pharmacies. More so, youth may be unwilling to seek STI treatment from religious clinics in other to avoid stigmatization due to religious view on issues relating to sex and STI. Among all those who sought treatment, however, about 8 of every 10 did not go back to place of seeking STI care to check after symptoms stopped while approximately 1 out of 3 of them did not finish the medicine given for their STI treatment. The implications are; apart from the fact that it would be difficult to conclude if the purpose of treatment was achieved, when STIs are not completely treated, they could linger thereby increasing the risk of developing adverse complication and sequelae. More so such individuals with incomplete STI treatment are potential source of re-infection.

For factors affecting health seeking behaviour of young people with self reported STIs, this study found that older youth (20-24 years) sought STI treatment than those of age group 15-19 years.

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Possible explanation could be that due to stigma surrounding STI and the perception that having STI means being promiscuous or unscrupulous, younger adolescents may not seek care. Also, the older ones could be more exposed to information generally by virtue of their age and such information could include those relating to their health. Also, youth of middle and highest economic status were more likely to seek STI treatment than those of the lowest status. Possible explanation is that those of high economic statuses are often more concerned about their health and often times may have family doctors which would make them to seek treatment easily for any observed symptom. A direct relationship between level of education and seeking treatment was found in this study. Youth with higher educational status were more likely than those with no education to seek treatment for their STI. This could be attributed to the fact that better educated people would have more information regarding their health which may prompt them to go for seek health services especially when having or suspicious of disease. Also this study found that the likelihood of seeking health service reduces as the frequency of religious service attendance reduces. Young people who attended religious services frequently were likely to seek treatment for their STI. This could be attributed to the fact that those who attend religious services regularly were more of those in the older age group (20-24 years) who are more exposed to information including those involving treatment seeking by virtue of their age. Those who belonged to the highest tercile of STI knowledge were more likely to seek treatment than those with lower STI knowledge. This high STI knowledge can affect the behaviour towards seeking STI treatment. The motivation to seek care is based on the perception of the likely consequences of the infection. Thus, those who recognize and could describe STI symptoms in males and females, as well as having high knowledge of its complications would be more likely to seek treatment.

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5.2 LIMITATION

Data for STI used in this study was based on self reports of STI symptoms. Particularly for women, this is seen as being problematic as many of the symptoms are fairly common. Also some such as genital itching may not be related to STI. For this study, recall bias often associated with self reporting was minimized as symptom was limited to the immediate past 12 months. Despite the limitation of this approach of self reported symptoms, it is still used as an important method in cross sectional sample surveys as it mostly detects asymptomatic infections. In addition, being a nationally representative sample, estimate of self reported STI have the advantage of being widely applied and can allow for assessment of the contributions of other factors.

5.3 CONCLUSION

In conclusion, this study showed that STI is more prevalent in females than males. Higher percentage of females reported having each of STI symptoms than males. STI knowledge was generally low in this study. Respondents aged 15-24 years were hardly aware of symptoms of STI.

Also it was found in this study that place of seeking treatment for STI varied among youth, the predominant place of seeking STI care for males were traditional healers, while the females predominantly sought STI care from formal sources such as government hospitals. Generally, very few youth went for confirmation test after STI symptom stopped. It was found that high knowledge of STI, alcohol use and high educational status were among factors significantly associated with seeking STI treatment.

5.4 RECOMMENDATIONS

- As observed in this study, STI is more prevalent in females than males. For optimal effectiveness, there is need for STI intervention programs to be targeted to males and females differently.

- As observed that young people are hardly aware of STI symptoms, STI sensitization programs should be improved in a way that more efforts should be geared to emphasizing the symptoms of STI and its complications. This will help infected people to easily identify these symptoms when present thereby increasing their need to seek health care.

- More so, as observed that the place of seeking STI treatment varied among youth, there is need for improved integrated approach that includes traditional healers in the treatment and management of STI. This could be done through education and enabling them for basic effective STI treatment and structured in a way that they as well serve as point of referral to formal system of care.

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GLOSSARY

Below are selected categories of variables and questions asked to elicit response from respondents, 2012 National HIV/AIDS and Reproductive Health Survey.

Demographic variables

1. Sex: Male [ ]   female[ ]

2. Which month and year were you born?

3. Month |_|_|

4. Year_|_|_|_|

5. What is the highest level of school you attended?

Qur'anic only   [ ]

Primary   [ ]

Secondary   [ ]

Higher   [ ]

6.   What is your religion?

Islam_____

Non catholic Christian   [ ]

Catholic Christian   [ ]

Traditional   [ ]

No religion   [ ]

Others specify _____

7.   How often do you attend religious congregational services?

More than once a week   [ ]

Once a week only   [ ]

Less than once a week   [ ]

Not at all   [ ]

8   How important is religion to you in helping you deal with problems?

Very important   [ ]

Somewhat important [ ]

Not important   [ ]

Others specify   [ ]

Variable on economic status was based on respondents answer to the following questions:

9.   Which of these items that I am going to read out do you have in your household?

Fridge   Yes [ ] No [ ]

Radio   Yes [ ] No [ ]

TV   Yes [ ] No [ ]

Car   Yes [ ] No [ ]

Video   Yes [ ] No [ ]

Cable/ satellite dish   Yes [ ] No [ ]

Washing machine   Yes [ ] No [ ]

GSM phone   Yes [ ] No [ ]

Telephone   Yes [ ] No [ ]

Generator   Yes [ ] No [ ]

More than once a week   [ ]

Once a week only   [ ]

Less than once a week   [ ]

Not at all   [ ]

8   How important is religion to you in helping you deal with problems?

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Cable/ satellite dish   Yes [ ] No [ ]

Washing machine   Yes [ ] No [ ]

GSM phone   Yes [ ] No [ ]

Telephone   Yes [ ] No [ ]

Generator   Yes [ ] No [ ]

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Gas/electric cooker	Yes [ ] No [ ]
Electricity	Yes [ ] No [ ]
Grinding machine	Yes [ ] No [ ]
Motorcycle	Yes [ ] No [ ]
Bicycle	Yes [ ] No [ ]
Fan	Yes [ ] No [ ]
Kerosene	Yes [ ] No [ ]
Cows	Yes [ ] No [ ]
Goats	Yes [ ] No [ ]
Owns farmland	Yes [ ] No [ ]
Owns boats/ship/canoe	Yes [ ] No [ ]
Donkey/ camel/ horse	Yes [ ] No [ ]

10.   Type of dwelling structure respondents live in?

Single family house	[ ]
Duplex	[ ]
2-3 bedroom flat	[ ]
Mini flat	[ ]
Room and parlour	[ ]
Single room	[ ]
Mud house with thatched roof	[ ]
Mud house with zinc roof	[ ]
Wood and makeshift structures	[ ]

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11.   Where do you get your main source of water supply for domestic use(for drinking, cooking/washing utensils)

	Drinking	Domestic
From the stream	[ ]	[ ]
From the well	[ ]	[ ]
From the in-house tap	[ ]	[ ]
From the tanker	[ ]	[ ]
From the borehole	[ ]	[ ]
From the rain	[ ]	[ ]
From water vendors	[ ]	[ ]

Others Specify_____

12.   What is your main method for sewage disposal?

Bush/field/river	[ ]
Pit toilet	[ ]
Ventilation improved pit latrine	[ ]
Bucket toilet	[ ]
Water closet	[ ]

13.   How many meals per day can you AFFORD throughout an average month?

Cannot guarantee one meal throughout the month   [ ]

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Only afford one meal a day throughout the month   [ ]

Only afford two meals a day throughout the month   [ ]

Afford three meals a day throughout the month   [ ]

Lifestyle variables

14.   Some people take alcohol, others don't. During the last 4 weeks, how often have you had

drinks containing alcohol?

Everyday   [ ]

At least once a week   [ ]

Less than once a week [ ]

Never   [ ]

Not sure   [ ]

Variables on media exposure

15.   How often do you listen to radio; is it every day, almost every day, at least once a week,

less than once a week or not at all?

Every day/almost every day [ ]

At least once a week   [ ]

Less than once a week   [ ]

Not at all   [ ]

Don't know   [ ]

16.   How often do you watch television; every day, almost every day, at least once a week, less than once a week or not at all?

Every day/almost every day   [ ]

At least once a week   [ ]

Less than once a week   [ ]

Not at all   [ ]

Don't know   [ ]

Variables on sexual behaviour

17.   At what age did you first have sexual intercourse, if ever?

        Age in years |__|__|

Never   [ ]

Can't remember   [ ]

No response   [ ]

18.   How many sexual partners have you had in the past 12? (vaginal sex only)

Number |__|__| No response [ ]

19.   Had sex with spouse or cohabiting partner in the last 12 months?   Yes [ ] No [ ]

20.   Had sex with boyfriend/girlfriend in the last 12 months?   Yes [ ] No [ ]

21.   Had casual sex partner in the last 12 months?   Yes [ ] No [ ]

22.   Had commercial sex in the last 12 months?   Yes [ ] No [ ]

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Variables on condom use

23.   Think of your very last sexual act with a non-marital, non-cohabiting partner. In that very last sex act, was a condom used?   Yes [ ] No [ ]

24.   The last time you had sex with your spouse or partner that you live together with, was a condom used?   Yes [ ] No [ ]

25.   The last time you had sex with a boyfriend or girlfriend, was a condom used?

Yes [ ] No [ ]

26.   The last time you had sex with a casual partner, was a condom used?

Yes [ ] No [ ]

27.   The last time you had sex with a commercial sex partner, was a condom used?

Yes [ ] No [ ]

28.   During the last 3 months, was a condom used with your spouse or partner with whom you are living together every time you had sex, sometimes or never?

Every time [ ] Sometimes [ ]   Never [ ]   No response [ ]

29.   During the last 3 months, was a condom used with your boy/girlfriend(s) every time you had sex, sometimes or never?

Every time [ ] Sometimes [ ]   Never [ ]   No response [ ]

30.   During the last 3 months, was a condom used every time you had sex with a casual partner, sometimes or never?

Every time [ ] Sometimes [ ]   Never [ ]   No response [ ]

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31.   During the last 3 months, was a condom used every time you had sex with a commercial sex partner(s), sometimes or never?

Every time [ ] Sometimes [ ]   Never [ ]   No response [ ]

Variables on STI knowledge

32.   Have you ever heard of diseases that can be transmitted through sexual intercourse (STIs)?

    Yes [ ]   No [ ]

33.   Can STIs prevent a woman from getting pregnant in future?

    Yes [ ]   No [ ]   I don't know [ ]

34.   Can STIs prevent a man from fathering children in future?

    Yes [ ]   No [ ]   I don't know [ ]

35.   Mention symptoms of STIs in women?

Lower abdominal pain   Yes [ ] No[ ]

Genital discharge   Yes [ ] No[ ]

Foul smelling discharge   Yes [ ] No[ ]

Burning pain on urination   Yes [ ] No[ ]

Genital ulcers/sores   Yes [ ] No[ ]

Swellings in groin area   Yes [ ] No[ ]

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Itching   Yes [ ]   No[ ]

Painful sexual intercourse   Yes [ ]   No[ ]

Others (specify)_____

36.   Mention symptoms of STIs in men.

Genital discharge   Yes [ ]   No[ ]

Burning pain on urination   Yes [ ]   No[ ]

Genital ulcers/sores   Yes [ ]   No[ ]

Swellings in groin area   Yes [ ]   No[ ]

Others (specify)_____

Self reported STI variables

37.   Have you had an abnormal genital discharge during the past 12 months?

        Yes [ ]   No [ ]

38.   Have you had genital itching during the past 12 months?

        Yes [ ]   No [ ]

39.   Have you had a genital sore/ulcer during the past 12 months?

        Yes [ ]   No [ ]

40.   Have you had genital rash during the past 12 months?

        Yes [ ]   No [ ]

Treatment seeking behaviour variables

41.   Seek advice or treatment from a government clinic or hospital? Yes [ ]   No [ ]

42.   Seek advice or treatment from a workplace clinic or hospital?   Yes [ ]   No [ ]

43.   Seek advice or treatment from a Christian/Islamic or charity-run clinic or hospital?

        Yes [ ]   No [ ]

44.   Seek advice or treatment from a private clinic or hospital? Yes [ ] No [ ]

45.   Seek advice or treatment from a private pharmacy?   Yes [ ] No [ ]

46.   Seek advice or treatment from a traditional healer?   Yes [ ] No [ ]

47.   Seek advice or treatment from a patent medicine store? Yes [ ]   No [ ]

48.   Did you finish all the medicine you were given?   Yes [ ] No [ ]

49.   Did you go back for a checkup after the symptoms stopped? Yes [ ] No [ ]

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Treatment seeking behaviour variables

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43. Seek advice or treatment from a Christian/Islamic or charity-run clinic or hospital?

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44. Seek advice or treatment from a private clinic or hospital? Yes [ ] No [ ]

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